

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

THE Journal

OF THE IOWA STATE MEDICAL SOCIETY

CONTENTS

| | | | |
|---|----|--|----|
| Amebiasis in Iowa: Diagnosis and Treatment Henry E. Hamilton, M.D., and Donald C. Zavala, M.D., Iowa City | 1 | Changing Trends in Surgery of the Colon George Crile, Jr., M.D., and Rupert B. Turnbull, M.D., Cleveland, Ohio | 12 |
| Spontaneous Hypoglycemia: The Use of a Provocative Insulin Test Robert P. Hardwig, M.D., and Christian E. Schrock, M.D., Waverly | 6 | The Importance of Life Planning Vern F. Nellis, Waterloo | 16 |
| Osteoporosis and Diabetes Mellitus: Report of a Case Paul W. Berney, Cedar, Rapids | 10 | College of Medicine Clinicopathologic Conference | 17 |

(Continued on page iv)

"—and, Doctor, it is contraindicated in—"


Whenever a Lilly representative visits physicians,
he gives useful facts about prescription products—
without varnishing the truth. Because recognizing
the limitations of drugs is often as important as knowing
their beneficial effects, every Lilly representative
regularly presents both sides of the picture.

*He and his company are always aware
that integrity in business is good business.*

Lilly

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.

JANUARY, 1952



cushions
the
climacteric

THEELIN

THEELIN Aqueous Suspension

Ampoules

- 1-cc. ampoules of 1 mg. (10,000 I.U.)
- 1-cc. ampoules of 2 mg. (20,000 I.U.)
- 1-cc. ampoules of 5 mg. (50,000 I.U.)

Steri-Vials

- 10-cc. vials of 2 mg. (20,000 I.U.) per cc.
- 5-cc. vials of 5 mg. (50,000 I.U.) per cc.

THEELIN in Oil

Ampoules

- 1-cc. ampoules of 0.2 mg. (2,000 I.U.)
- 1-cc. ampoules of 0.5 mg. (5,000 I.U.)
- 1-cc. ampoules of 1 mg. (10,000 I.U.)

Steri-Vials

- 10-cc. vials of 1 mg. (10,000 I.U.) per cc.

PARKE, DAVIS & COMPANY

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, JANUARY, 1952

No. 1

AMEBIASIS IN IOWA: DIAGNOSIS AND TREATMENT

HENRY E. HAMILTON, M.D.*

AND

DONALD C. ZAVALA, M.D.*

IOWA CITY

AMEBIASIS is a disease of protean manifestations with serious morbidity and mortality. It is probably more prevalent in Iowa than is generally recognized. State Public Health statistics are incomplete because the disease is poorly reported.

The purpose of this paper is to help the practicing clinician become "amebiasis conscious." Undoubtedly patients with the disease pass unrecognized and are treated symptomatically until serious complications arise. Early diagnosis is important since we have excellent forms of treatment. This paper reviews our experience in the recognition and treatment of amebiasis, presenting case reports, diagnostic aids and modern concepts in therapy.

PRESENTATION OF DATA

We reviewed the records of 32 patients with proved amebiasis admitted to this hospital from 1938 through May, 1951, and have made a statistical analysis relative to age, sex, occupation, locale, symptoms, complications, treatment and laboratory results. Sixteen of the patients, admitted since 1946, have been observed personally by us.

| | | | | | | | |
|------|-----|-------|-------|-------|-------|-------|-------|
| Age: | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 |
| No.: | 4 | 1 | 10 | 7 | 4 | 5 | 1 |

Sex—26 males and 6 females.

Occupation—The occupations were widely diversified and fairly well divided including farmers, laborers, businessmen and housewives. Of the remainder there were two physicians, two students and four children.

Locale—Twenty-two patients had never been out of the state of Iowa; five of them came from

a mental institution. Ten patients had been outside the state, two in the southern United States, one in the Southwest, one in California, three in the South Pacific, one in China and one in Europe. One developed the disease immediately following a visit to the Chicago World Fair in 1933.

Symptoms—The following symptoms occurred singly or in combination. The duration of symptoms varied from four days to six years with an average of one and one-half years.

| | | | |
|----------------------------------|----|-----------------------------|---|
| Fatigue & malaise | 31 | Nausea & vomiting | 5 |
| Diarrhea | 28 | Constipation | 4 |
| History of fever | 15 | Cough | 4 |
| Bloody stools | 15 | "Anchovy" sputum | 3 |
| Abdominal cramps, bloating | 15 | Chest pain | 3 |
| Wt. loss over 20 lbs. | 13 | Severe rectal hemorrhage .. | 3 |
| Fever above 101.6° | 8 | Rt. shoulder pain | 2 |
| RUQ abdominal pain | 7 | Acute abdomen | 1 |

Complications—The total number of patients having regional or metastatic complications numbered eight. One patient had a cecal abscess and one an acute amebic appendicitis. Six patients had hepatic abscess; of these, three had subphrenic abscesses with hepato-bronchopleural fistulae and one had a duodenal-colic fistula. Three additional patients had severe rectal hemorrhage.

Laboratory Observations—The stools of 30 patients were examined; 28 were positive and two negative for *Endamoeba histolytica*. Both of the patients with negative stools had tender, enlarged livers and positive complement fixation tests. The stools of two patients were not examined, yet active amebic colitis was present at postmortem. Sputum studies done on those with hepato-bronchopleural fistulae were all negative. Sigmoidoscopy was performed on 20 patients; hyperemia, petechial hemorrhages and ulcerations were observed. The bowel picture in many instances could not be differentiated grossly from that of ulcerative colitis. Colon series were reported either as normal or "spastic."

An anemia was present in seven patients with the hemoglobin ranging from 7.0 to 10.5 Gm. per 100 ml. and the erythrocyte count 2,800,000 to 3,620,000 per cu. mm. Six of the seven anemic patients had amebic liver abscesses and one had massive rectal hemorrhage. The white cell counts

*From the Department of Internal Medicine of the College of Medicine of the State University of Iowa and the University Hospitals, Iowa City.

varied from 5,400 to 28,900 per cu. mm. (with a mean of 13,500) for those without complications and from 10,000 to 40,300 per cu. mm. (with a mean of 19,000) for those with complications. The eight patients with complications had white cell counts above 15,000 per cu. mm. except one with a count of 10,000. The percentage of polymorphonuclear leukocytes varied from 32 to 90 per cent, with a mean of 65 per cent for those without complications and 69 per cent for those with complications. The average eosinophil determination for the uncomplicated group was 3.8 per cent compared to 2.4 per cent for the complicated group. An eosinophilia of 6 to 12 per cent was found in eight patients.

Initial Impressions—On initial examination the diagnosis of amebiasis was considered as a definite possibility in 18 and was not suspected in 14. The correct diagnosis in the two untreated patients was not made until autopsy. One was thought to have a carcinoma of the rectum with metastasis to the right lung. In the other a diagnosis of carcinoma of the colon with formation of a subphrenic abscess was made; drainage of this abscess was followed by a fatal peritonitis. In this series amebiasis was most often mistaken initially for irritable bowel, ulcerative colitis, bacillary dysentery and carcinoma of the rectum or colon. It was less often confused with diverticulitis, tuberculosis, Addison's disease, malaria, brucellosis, acute or chronic pancreatitis, appendicitis and psychoneurosis.

Results of Treatment—Two patients were undiagnosed and had no specific therapy. Fifteen were treated with intermittent or alternating therapy using standard doses of vioform, chiniofon, carbarsone or emetine. Since 1946, 15 have been treated with emetine and diodoquin, vioform or chiniofon concurrently (eight patients) or with chloroquine and diodoquin (seven patients).

The results were significant. The two untreated patients died from metastatic complications. Three

cases illustrate the variety of clinical pictures one may encounter in this disease.

Case 1. A 43 year old cafe chef was diagnosed as having ulcerative colitis for three and one-half years. The stools had not been examined for parasites. During this time he suffered an intermittent bloody diarrhea, cramping abdominal pains and 40 pound weight loss. He re-entered the hospital on November 16, 1939. Sigmoidoscopic examination showed a diffusely red and injected mucosa with minute ulcerations. A stool specimen was positive for trophozoites of *Endamoeba histolytica*.

Case 2. A nine year old boy entered the hospital on September 6, 1945, with a two-month history of lower abdominal cramps, weight loss, malaise and episodes of massive rectal hemorrhage. Sigmoidoscopic examination showed a severe proctitis with several bleeding ulcers. His stools contained many motile trophozoites of *E. histolytica*.

Case 3. A 45 year old physician was admitted to the hospital on August 23, 1946, with sudden onset of chills and spiking fever four days previously, followed by mid-epigastric pain which radiated into the back. Acute pancreatitis or appendicitis was suspected. An evaluative celiotomy revealed an acutely inflamed appendix. Following appendectomy, the patient ran a septic course which was not altered by penicillin and streptomycin. Microscopic section of the appendix showed many eosinophils in the lamina propria. The stools were examined then and found to contain numerous trophozoites of *E. histolytica*. The patient made a dramatic response to amebicidal therapy.

Case 4. A 27 year old university student gave a four-year history of malaise and recurring bouts of fever which began while he was in the Philippine Islands during World War II. Numerous blood smears were negative for malaria. Repeated agglutinations were negative for typhoid, paratyphoid and brucellosis. He was admitted to the hospital on July 16, 1950, at which time his stools were positive for *E. histolytica*. Recovery followed concurrent therapy.

Case 5. A 24 year old salesman entered the hospital on September 23, 1950, with a history of recurring diarrhea which began in the South Pacific five years previously. His only symptom at time of admission was malaise. Physical examination revealed a tired-looking young man who had a tender liver and bronze pigmentation of the skin over the forehead and forearms resembling a mottled fading sun tan. The stools were negative for parasites; the sigmoidoscopic examination and x-rays of the colon were normal. A complement fixation test for amebiasis was strongly positive. Following amebicidal therapy liver tenderness disappeared and a feeling of well-being returned.

Case 6. A 31 year old physician was seen in the out-clinic on May 10, 1950, complaining of chronic fatigue. He was in Germany during 1946-

Table I. Results of Treatment

32 cases of amebiasis treated at the University Hospitals from 1938 through May 1951

| Drugs Used | Form of Therapy | Cases | Results |
|--|-----------------------------|-------|------------|
| None | | 2 | 2 deaths |
| Diodoquin, vioform, chiniofon, carbarsone or emetine | Intermittent or alternating | 15 | 7 relapses |
| Emetine and diodoquin, vioform or chiniofon | Concurrent | 8 | 0 relapses |
| Chloroquine and diodoquin | Concurrent | 7 | 0 relapses |
| | Total | 32 | |

of the patients in the group receiving intermittent or alternating therapy had a total of seven relapses. There were no known relapses in the group treated with concurrent therapy. See Table I.

CASE REPORTS

The following brief reports of nine proved

1947, where he experienced frequent rectal tenesmus. In 1949 he developed constipation, malaise and afternoon temperature elevations. Many chest films were taken searching for tuberculosis, but no evidence of lung disease was discovered. In April, 1950, he experienced cramping lower abdominal pains. Physical examination revealed a tired and haggard patient. The skin of the face, hands, arms, thighs and abdomen (including pressure points) showed a coppery or muddy pigmentation. The liver was enlarged and tender. The stools and stool cultures contained trophozoites of *E. histolytica*.

Case 7. A 25 year old mother of two children was treated symptomatically four years for an undiagnosed bowel condition. She had an alternating diarrhea and suffered a 30 pound weight loss. Two months prior to hospital admission the patient experienced excruciating abdominal pain in the right upper quadrant and later began coughing up "anchovy" paste sputum. A tentative diagnosis of advanced pulmonary tuberculosis and tuberculosis enteritis was made. She was admitted on September 23, 1948, in a moribund condition. She had amebic colitis with positive stools and metastatic complications consisting of a huge amebic abscess of the liver with a hepato-bronchopleural fistula. The liver function tests were only slightly altered.¹

Case 8. A 37 year old laborer who had been treated previously for neurosyphilis entered the hospital on March 29, 1946, complaining of severe pain in his right shoulder, weakness, fatigue, non-productive cough and mild constipation. The significant findings on physical examination were a tender, enlarged liver and an elevated right diaphragm. The stools were negative for parasites. Several x-rays were taken of the right shoulder because of the persistent pain, but the films were normal. A diagnosis was made of peri-arthritis of the right shoulder and tracheo-bronchitis. The patient was discharged and returned one month later acutely ill, coughing up copious amounts of "anchovy" paste sputum. He had a large amebic abscess of the liver which had ruptured through the right diaphragm with formation of a hepato-bronchopleural fistula.

Case 9. A 53 year old laborer entered the hospital on February 24, 1940. He gave a two-month history of bloody diarrhea, weakness and 40 pound weight loss. One month before admission he developed a cough with production of brownish sputum, pain in the right chest and septic fever. Physical examination revealed a fungating mass in the rectum, an enlarged tender liver and dulness over the right hemithorax. Thoracentesis yielded a large amount of chocolate colored sterile pus. A clinical diagnosis of rectal carcinoma with metastasis to the right chest was made. The patient died in eight days. Postmortem examination revealed extensive *Endamoeba histolytica* infestation of the rectum, large intestine, liver and right lung.¹

THE BEDSIDE RECOGNITION OF AMEBIASIS

The variability of signs and symptoms of amebiasis depends upon an unpredictable and little understood parasite-host relationship. It is to be recalled that the cysts of *E. histolytica* are ingested and excystation takes place in the intestine. The resulting trophozoites have variable cytolytic properties and invade the mucosa and submucosa of the large bowel to produce abscesses. The infection probably remains localized to the bowel in a relatively asymptomatic form in the majority of persons infected. Surveys have shown that in some parts of the country from 2 to 20 per cent of the population have stools containing cysts of *E. histolytica*.² At any time the parasite-host relationship may be upset and the parasite invades the tissues locally and/or at distant points. Thus, one or many systems of the body may be involved. Because of these factors a wide variety of seemingly unrelated clinical pictures may be encountered.

Amebiasis may manifest itself as a *systemic disease* with no clue to suggest the locus of infection. A history of malaise, fatigue and weight loss with or without fever will mimic a large number of infectious or neoplastic diseases. Recurrent fever and sweats of weeks' or months' duration may be the only finding (Case 4). In the absence of a satisfactory explanation for these systemic symptoms the "amebiasis conscious" clinician will look for *E. histolytica*.

Bowel symptoms are common. Eighty-seven per cent of our cases had diarrhea at some time during the course of the illness. The diarrhea may be fulminating as in acute bacillary dysentery, or it may be intermittent as in idiopathic ulcerative colitis (Case 1), "mucous" colitis or irritable bowel syndrome. Often alternating periods of diarrhea and constipation are encountered. In some instances constipation (13 per cent of our cases) or normal bowel function is present. Changes in bowel function are frequently associated with vague, cramping abdominal pains relieved by bowel movements. In 10 per cent of our cases a severe rectal hemorrhage brought the patient to the doctor. The main complaint may be that of newly acquired hemorrhoids. The presence of a mass in the abdomen discovered by palpation, proctoscopic examination or by x-ray of the colon may dominate the picture and turn out to be an amebic granuloma rather than the more commonly suspected neoplasm (Case 9). Under certain circumstances the invasive capacity of the amebae is such that fistulae and pericolic abscesses are formed.

Hepatic amebiasis is a comprehensive term which includes amebic hepatitis and abscess formation. Either hepatitis or abscess may exist with or without active intestinal amebiasis. The clinical differentiation between the two forms is often difficult if not impossible, for with each there may be tenderness and enlargement of the liver with

an elevated or fixed right hemidiaphragm. As a rule, liver abscess is present when there is a septic fever. The abscess may be first recognized when spontaneous drainage occurs through a hepato-bronchopleural fistula. This occurred in Case 7 where an upright x-ray film of the abdomen showed the fluid level of a partially drained hepatic abscess. When the differentiation between right lower lung abscess and hepatic abscess cannot be made by routine radiography the simple expedient of introducing air into the peritoneum helps one by fluoroscopy to locate the abscess in relationship to the diaphragm.

The recognition of amebic hepatitis is dependent upon the demonstration of liver tenderness which is not necessarily accompanied by enlargement. Because the liver may be normal in size the examiner often fails to elicit liver tenderness and thereby misses the underlying hepatitis. The following technic of examination enabled us to elicit liver tenderness in all proved cases since 1946. The examiner stands to the right of the patient and puts his right hand under the right costal margin with the finger tips firmly resting about one-half of an inch from the xiphoid process. As the patient breathes freely through the mouth the hand is slowly pressed inward and upward. This maneuver presses the falciform ligament of the liver and usually produces pain even though the liver edge is not palpated. If pain is not elicited have the patient take a deep breath. The impingement of the liver on the palpitating finger tips produces a sharp pain which abruptly halts respiration. As a control one should palpate in a similar manner in the left epigastrium applying even greater pressure. No pain should be elicited on the left side. The pain of amebic hepatitis disappears rapidly with proper treatment.

Amebic hepatitis may be confused with infectious hepatitis. In amebic hepatitis liver function tests show little or no impairment and jaundice is rare; in infectious hepatitis the tests are significantly altered and jaundice is common. The differential diagnosis of amebic hepatitis commonly includes carcinoma, brucellosis, cirrhosis, pyogenic abscess, cholecystitis, infectious mononucleosis, malaria, and less commonly syphilis, ascariasis, trichiniasis, echinococcosis, kala-azar and schistosomiasis.

When first seen the patient may focus the physician's attention on the right chest or shoulder. Joint disease was considered in Case 8 because of diaphragmatic pain referred to the right shoulder. If the *pleura* or *lung* is invaded through the diaphragm by extension from the liver one can easily mistake the thoracic lesion for a lung abscess, empyema, pneumonia, tumor (Case 9) or tuberculosis (Case 7). Sputum, pleural fluid or the emptied contents of a hepatic abscess are characteristic. This reddish brown pus has been likened to "anchovy paste." The exudate is usu-

ally free of bacteria and only rarely is the parasite found.

In rare instances focal lesions may be found in the pericardium, brain, eye and skin. Recurrent polyarthritis has been associated with active amebic colitis.³ In undiagnosed disease of the bowel, liver or lungs or with evidence of a disseminated process we have a responsibility not to accept the "statistically" most likely diagnosis of neoplasm, tuberculosis or other bacterial infection until a thorough search has been made for amebae. This is particularly important in view of the high cure rate even in seriously ill patients.

As an isolated sign, *hyperpigmentation* of the skin similar to chloasma of pregnancy is sometimes observed in persons chronically ill with amebiasis. The pigment is present on the face, exposed surfaces and pressure points. It has the appearance of a dirty complexion. The brown pigment is darkest over the forehead and periorbital regions while the skin beneath and adjacent to the eyebrows is normal. We have observed the pigmentation in several patients not previously exposed to the sun. One, a physician, noted a "strange color change" brought out under a fluorescent shaving lamp many months before his chronic illness was diagnosed as amebiasis. Another patient remarked that her family was "worried" about the color change of her face. Each of these patients exhibited large irregular patches of bronze hyperpigmentation over the face, abdomen and arms being most accentuated over the forehead and temples. A biopsy of skin revealed a slight increase of normally distributed melanin. The pigment did not contain iron.

LABORATORY STUDIES

Absolute proof of amebic infection depends on demonstration of the parasite *E. histolytica*. This is not possible in all instances, yet in every suspected case of amebiasis a serious attempt should be made to demonstrate the parasite in the stool. It is of great importance to know the methods by which an adequate specimen can be obtained for examination in the laboratory. Failure to find the parasite usually is due to inadequate supervision of the collection of the specimen or improper preparation of the patient.

The greatest success in finding the parasite is attained by immediate examination of a fresh warm liquid stool containing large amounts of blood or mucus. It is in this type of stool that the motile trophozoite will be found, whereas the cystic form of *E. histolytica* is found in the solid portion of stool. Diarrheal stools can be examined directly. Solid stools are best studied when concentrated by appropriate technics, yet this method of examination is less likely to give a positive result when compared to the direct examination of the liquid stool.

If the patient does not have diarrhea we advise purgation. Three glasses of water are given on an

empty stomach followed in 15 minutes by 2 ounces of 50 per cent sodium sulfate. (Magnesium sulfate is not desirable because it slows up the activity of the trophozoite.) The initial solid portion of the stool is discarded. The second and successive liquid stools are saved in cardboard containers. A bit of blood streaked mucus from the fresh stool is transferred with a platinum loop to a warm glass slide, mixed with an equal amount of 0.9 per cent saline and covered with a cover glass. The stage of the microscope should be prewarmed with a portable light. An immediate search is made for the parasite and particular attention given to motile trophozoites with ingested red blood cells. Other samples of stool may be mixed with equal portions of Lugol's solution. The amebae in such preparations slowly stain a deep mahogany color which helps to differentiate them from other structures in the stool.

The services of the State Hygienic Laboratory may be elicited for study of stool specimens in suspected cases of amebiasis.*

The sigmoidoscopic examination is of value in establishing a diagnosis of amebiasis. In general, four types of lesions are observed: (1) Superficial papular lesions measuring 1-3 mm. in diameter. Care must be taken not to overlook these small discrete red or grayish colored lesions which often have a mildly hyperemic or granular zone immediately surrounding them. The intervening mucosa is ordinarily normal in appearance. Since there may be only one or two papules of this type visualized they are frequently overlooked or no significance is attached to their presence. (2) Distinct ulcers with ragged overhanging edges measuring 1 mm. to over 1 cm. in diameter. The rest of the mucosa is usually normal. (3) Large irregular bleeding ulcerations with granular injected bridges of mucosa. (4) Granular, hyperemic mucosa which bleeds easily. The last two types of bowel lesions cannot be differentiated from those seen in idiopathic ulcerative colitis. In eight patients with amebiasis the preliminary proctoscopic report was that of "idiopathic ulcerative colitis." If the stools are negative for parasites it is suggested that a metal curette be used to gently scrape the ulcer base. Material obtained in this fashion may contain amebae when other methods have failed. A cotton swab should not be used in procuring material for examination because the parasites adhere to the cotton fibrils making transference to the glass slide difficult.

The temperature curve is especially valuable in detecting serious complications of amebiasis. All of our patients who had hepatic abscess, sub-diaphragmatic abscess, invasion through the dia-

phragm and pleura into the chest, cecal abscess and acute amebic appendicitis had temperatures above 101.6°. Those with colitis and hepatitis had normal temperatures.

An anemia was universal in the group with complications. The leukocyte count was helpful but not specific. The difference in percentages of polymorphonuclear leukocytes between the two groups was not significant. It is generally thought that the eosinophil count is usually normal in amebiasis, yet 25 per cent of our patients had an eosinophilia. The slight possibility exists, however, that other unrecognized parasites caused the eosinophilia.

The newly improved complement fixation test may be helpful in detecting amebic infection when repeated stool examinations have been negative. The test cannot screen for amebiasis because under the best of circumstances only between 70 and 90 per cent of proved cases give positive results.^{4, 5} It is positive more often in the presence of an active hepatic amebiasis. A therapeutic response to specific drugs and the reversal of the complement fixation reaction in 4-8 weeks is strong evidence of amebiasis. The persistence of a positive reaction many weeks after treatment has been completed is presumptive evidence of residual infection.

TREATMENT

With the proper choice of drugs and with due consideration for the principles of therapy nearly all patients with amebiasis can be freed of infection rapidly and completely. There are two phases of the disease which must be controlled: one, the surface or luminal infestation of the bowel, and two, the tissue or metastatic infestation. There is no single drug capable of eradicating both phases. Each requires treatment with the appropriate amebicidal drug. Furthermore, the drug for the bowel phase and the drug for the tissue phase must both be given at the same time. This is referred to as concurrent therapy. In the past, intermittent and alternating courses of drug therapy often failed. This is illustrated by the poor results in our cases treated by this method.

The two amebicides available for treatment of the tissue phase of the infection are chloroquine and emetine. Of the many compounds available for treatment of the bowel phase we believe the most satisfactory one to be diodoquin. It is recommended that the following treatment be instituted. Diodoquin is administered orally before each meal in a dose of 9.6 grains (with a total adult dose of 28.8 grains per day) for 21 days. *Concurrently*, chloroquine is administered orally in 1 gram doses daily for two days and thereafter in 0.5 Gm. doses for 19 days. Sulfasuxidine or sulfaguanidine should be given during the first seven to ten days of combined therapy to combat bacterial infection in the ulcerated bowel. Secondary bacterial infection in a metastatic lesion

* The stool specimen must be placed in an unstable preservative and mailed promptly to the State Hygienic Laboratory. The preservative, mailing cartons, and instructions for collection of stool specimens may be obtained from Dr. I. H. Borts, State Hygienic Laboratory, Medical Laboratories Building, State University of Iowa, Iowa City, Iowa.

should be treated with an appropriate antibiotic, e.g. penicillin.

Chloroquine has high amebicidal properties and is particularly efficacious in amebic hepatitis. In every respect it is as effective as emetine chemotherapeutically and, in addition, it has no known serious complications such as are well recognized with emetine therapy. Ambulatory patients may be given chloroquine without confining them to bed. This has a distinct advantage over emetine. Even though emetine has many toxic properties⁶ it may be used in the uncommon instances of failure of the routine treatment as outlined above. Because of the rapidity of action it may be given prior to emergency drainage of an amebic abscess and in moribund patients (Case 7). The drug should be administered intramuscularly in 1 grain doses daily for not more than seven days. Patients receiving emetine should be kept in bed.

A review of our cases indicates excellent results following concurrent therapy. Whether we used emetine or chloroquine seemed to make no difference provided diodoquin, vioform or chiniofon was given concurrently. No recurrences have been discovered in this group treated with combined therapy.

Carbarsone, vioform, chiniofon and aureomycin have been used with varying degrees of success in the treatment of amebiasis. None has a greater amebicidal property than the drugs recommended for concurrent therapy. *As a group they have many disadvantages.* Carbarsone is toxic and fails in some instances to bring the bowel infection under control. Vioform and chiniofon may produce diarrhea. According to recent reports^{7, 8} and in our own limited experience aureomycin is not the drug of choice for the treatment of amebiasis. Hall (1951) reported 75 per cent failures in the treatment of hepatic amebiasis with one course of aureomycin.

It is not within the province of this paper to discuss in detail the surgical aspects of amebiasis. Many cases of amebic abscess recover with medical management. If evacuation of a liver abscess is indicated, needle aspiration of the pus is the therapy with the lowest mortality.

SUMMARY AND CONCLUSIONS

1. A study has been made of 32 cases of amebiasis diagnosed and treated in the University Hospitals.

2. Nine cases are presented illustrating seemingly unrelated clinical disorders involving various systems of the body which proved in each instance to be caused by an *E. histolytica* infection.

3. The "amebiasis conscious" physician should consider an infection with *E. histolytica* in all undiagnosed diseases of the bowel, liver, pleura and lungs.

4. Amebiasis can be recognized by simple bedside and laboratory observations.

5. Concurrent treatment with diodoquin and

chloroquine will eradicate both the bowel and tissue phase of the disease.

BIBLIOGRAPHY

1. Zavala, D. C.; and Hamilton, H. E.: Recognition and treatment of hepatic amebiasis. To be published in *Ann. Int. Med.* (January) 1952.
2. Craig, C. F.; and Faust, E. C.: *Clinical Parasitology*, 5th Edition, Philadelphia, Pa., Lea and Febiger, 1951, p. 72.
3. Rappaport, E.; Rossien, A. X.; and Rosenblum, L. A.: Arthritis due to intestinal amebiasis. *Ann. Int. Med.*, 34:1224-1231 (May) 1951.
4. Craig, C. F.: Amebiasis and the complement-fixation test. *U. S. Armed Forces Med. J.*, 1:1337-1342 (November) 1950.
5. Husse, K. L.; and Brown, H. W.: The complement fixation test for hepatic amebiasis. *Am. J. Trop. Med.*, 30:147-157 (March) 1950.
6. Klatskin, G.; and Friedman, H.: Emetine toxicity in man: Studies on the nature of early toxic manifestations, their relation to the dose, levels, and their significance in determining safe dosage. *Ann. Int. Med.*, 28:892-915 (May) 1948.
7. Bagen, J. A.: Present day management of amebiasis. *J.A.M.A.*, 145:785-789 (March 17) 1951.
8. Hall, W. H.: The treatment of chronic human amebiasis with aureomycin. *New Eng. J. Med.*, 244:495-503 (April 5) 1951.

SPONTANEOUS HYPOGLYCEMIA: THE USE OF A PROVOCATIVE INSULIN TEST*

ROBERT P. HARDWIG, M.D.

AND

CHRISTIAN E. SCHROCK, M.D.

WAVERLY

THE PURPOSE of this paper is to discuss spontaneous hypoglycemia as encountered in office practice, to emphasize the diagnostic pitfalls and to point out its frequency of occurrence. We wish also to call attention to an office procedure helpful in the diagnosis—the reproduction of an attack by small amounts of insulin.

From an etiologic point of view, the classification of the spontaneous hypoglycemias advanced by Conn is most lucid (Table 1). The organic

Table 1. Classification of Hypoglycemia.

| |
|---|
| I. Exogenous |
| 1. Insulin Overdosage. |
| II. Endogenous |
| A. Organic |
| 1. Hyperinsulinism—Pancreatic islet cell adenoma, carcinoma, or hypertrophy. |
| 2. Hepatic disease—Toxic hepatitis, carcinomatosis, fatty liver, Von Gierke's Disease, diffuse cholangitis. |
| 3. Hypopituitarism—Atrophy, infection, or destructive lesions. |
| 4. Adrenal cortical insufficiency—Atrophy, destructive neoplasm, or destructive granuloma. |
| 5. Hypothyroidism. |
| 6. Thalamic lesions. |
| B. Functional |
| 1. Increased insulin secretion (normal pancreas) "Autonomic imbalance." |
| 2. Decreased anterior pituitary or adrenal cortex secretion. |
| 3. Excessive oxidation: Prolonged arduous exercise. |
| 4. Pregnancy and lactation. |
| 5. "Idiopathic postoperative" hypoglycemia. |
| 6. Alimentary hypoglycemia after stomach operations. |

hypoglycemias are rather rare and will not be discussed in detail. Of the functional group, that listed under number 1—increased insulin secretion from the normal pancreas, or so-called func-

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

tional hyperinsulinism—is the group to which this paper has reference. It constitutes 70 per cent of all cases of spontaneous hypoglycemia. This is fortunate, for it is also this group which any physician can manage simply and efficiently in office practice. Conversely, diagnosis is difficult, because the bizarre symptoms which it produces may be almost completely lost in a maze of unrelated psychosomatic complaints.

Conn¹ has pointed out that these individuals are hyperreactors in general. They manifest vegetative nervous system instability such as gastric hyperacidity and vasomotor instability—that is, they are vagotonic individuals. Portis^{2, 3, 4} has also drawn attention to the neurogenic and psychosomatic aspects of hypoglycemia. He has noted the frequency of hypoglycemia in individuals with the complaint of fatigue. In a recent series, 43 of 100 patients with this complaint had a typical flat glucose tolerance curve (Figure 1). Portis has demonstrated that the flat glucose tolerance curve seen in his fatigue patients was reverted toward normal by the use of atropine (Figure 2). The supposition is that the drug will block the effect of the right vagus on islet cell secretion.

Harris⁵ has pointed out that hypoglycemia is found frequently by those who search for it and rarely by those who do not. He cites the physician who after recognizing his first case found 25 more in the following two years. He further states: "Unfortunately, all the cases are not in the literature—they are to be found in every doctor's clientele and, sad to relate, are most probably untreated." However, even a hypoglycemia-conscious physician may have difficulty with the diagnosis. The problem lies in properly developing the history, for as in the case of angina, the patient's symptoms are exclusively responsible for suggest-

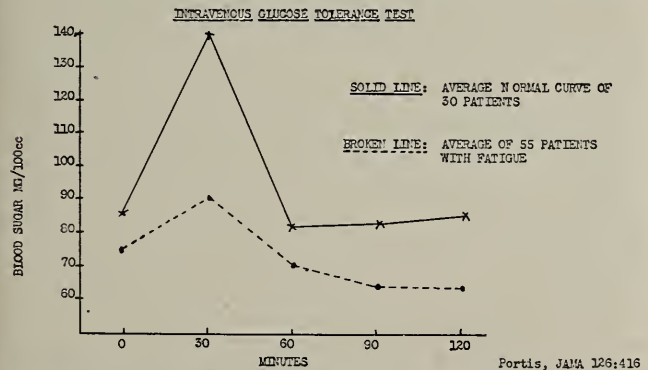


Figure 1. Glucose Tolerance Curves in Normals and Patients with Fatigue.

ing the proper diagnosis. In our experience diagnosis is difficult in four groups of patients.

1. *The group in which typical symptoms of spontaneous hypoglycemia may be obscured by unrelated complaints.* A few minutes after a patient in this group begins his recital, the physician may classify the patient as another neurotic. He loses a certain degree of mental alertness, and

may miss the specific points that should warn him that all is not neurosis.

2. *The group in which a history so strongly indicates another diagnosis that spontaneous hypoglycemia is not considered.* A 62 year old railroad laborer was seen in 1948 for a routine examination. He gave a history of having been "overheated" on two occasions in the past, and on a hot day earlier that summer had had an attack of

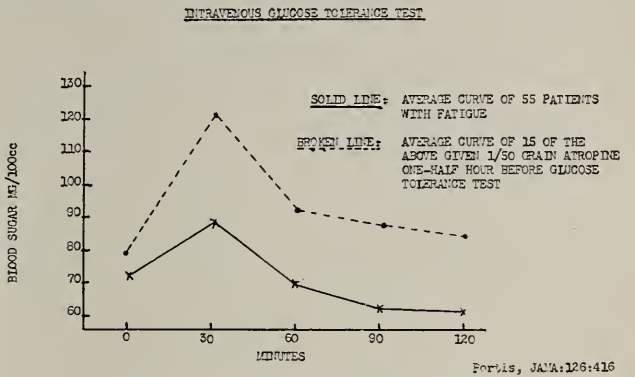


Figure 2. Effect of Atropine on Glucose Tolerance Test of Patients with Fatigue.

weakness, trembling and marked sweating. It was felt that his difficulty was probably salt depletion, and he was advised to eat additional salt. He was seen again in 1950, when he had another episode during which he sweat profusely, trembled and became so weak he had to sit down. This occurred at 11 a. m. He was not hungry and ate only part of his lunch. Shortly after noon the attack subsided, but he continued to feel so weak that he was unable to work. When seen in the office next day, an insulin test was done which duplicated the man's symptoms entirely.

3. *The group with word symbol difficulties, or the use of phrases by the patient which do not clearly define his symptoms to the physician.* Thus a 39 year old farmer was seen because of profuse sweating which was related chiefly to being in public places. This would occur at any time of day, without relation to meals—just after or even while eating. In addition to and separate from the bouts of sweating, he mentioned that he had frequent "gaunt spells." When asked if he could explain how he felt with his "gaunt spells," he said he simply felt "gaunt!" Close and careful questioning finally elicited the typical symptom complex of spontaneous hypoglycemia, which the patient could express only in a stereotyped phrase.

4. *The group in which symptoms are minimized by the patient.* Typical symptoms may be present, but are so underemphasized that the physician is not impressed. Thus the patient may say that he sweats "a little bit," is hungry "but not bad" and trembles "somewhat." One man who was tested completely drenched his clothing, and had a fairly severe episode. He admitted he was a "little" hungry, (but did not think he was unusually so). However, he went into a restaurant and ate two full dinners topped off with pie a la mode!

THE PROVOCATIVE INSULIN TEST

When the patient presents the classical symptoms, suspicion of the correct diagnosis is simple. In the groups of patients described above where the history is not clear-cut, we have found the provocative insulin test of help. Its use has been instrumental in establishing a diagnosis in seven cases within the past year. The test is conducted as follows. The patient eats his usual breakfast. He

EFFECT OF PREVIOUS DIET UPON GLUCOSE TOLERANCE OF NORMALS

Conn, Am. J. Med. Sc. 199:558

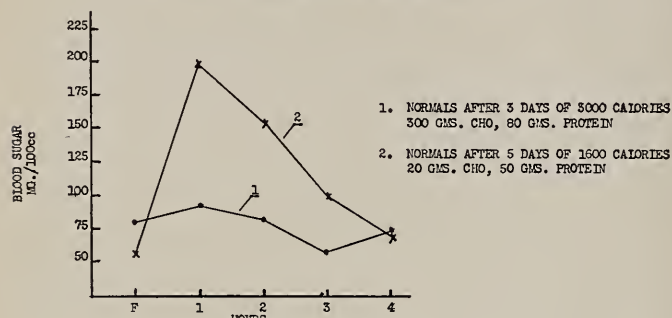


Figure 3.

reports to the office at 9 a. m. and is placed recumbent on an examining table. Smoking is prohibited, on the basis that small doses of nicotine produce ganglionic stimulation which in turn acting through the adrenals causes a rise in blood sugar. A control blood sugar is drawn. He is told a test is to be performed but not what results to anticipate. A dose of 0.1 unit of regular insulin per kilogram is given intravenously. The patient is then observed closely at three to five minute intervals. Care is taken not to use leading questions. Thus, he is not asked if he is hungry, or nervous, or sweating. From 15 to 35 minutes after the injection of insulin, objective evidence in the form of dampness of the forehead and palms is noted, which progresses rapidly to a drenching sweat. At this stage, definite tremor of the outstretched fingers is demonstrable. The patient usually states voluntarily that he is hungry. When the reaction is fully developed he will inform one that he is now having one of his "spells." If that information is not spontaneously forthcoming, the direct query "have you ever felt like this before?" results in one of two answers. The patient familiar with a hypoglycemic reaction on the basis of his own personal experience will state (quite matter-of-factly) that this is exactly how he feels with his attacks. On the other hand, the neurotic whose test-induced hypoglycemic episode is his first will be alarmed. He will be most emphatic in denying that he ever had anything like this before in his life! When the reaction is well developed, blood is again drawn for a sugar determination, and the patient is given sugar orally. We have never intentionally allowed the reaction to reach the stage of cerebral manifestations or to run its course. We do not, therefore, know what the true insulin

tolerance curve is like in these individuals. In only one case have we found it necessary to administer intravenous glucose to terminate the test.

The pre-test blood sugar has been within normal limits in all our patients, being in the neighborhood of 100 mg. per cent. In those individuals in whom the test was positive, the blood sugar at the height of the reaction has always been 50 mg. per cent or less. In all of our patients, the test produced symptoms and signs which the patient recognized without prompting to be those of his spontaneous episodes.

It must be emphasized that this test is not in itself diagnostic of spontaneous hypoglycemia. Normal individuals can and do develop hypoglycemic symptoms when given the same amount of insulin intravenously. Its interpretation is based upon the reproduction of symptoms which the patient can recognize as those with which he is familiar and of which he complains. In addition, objective evidence of sweating and trembling is available to the physician. It can also be objectively demonstrated that the symptoms and signs are associated with a low blood sugar and that they respond to the administration of glucose. In few other diseases is it so simple for the physician to telescope into 20 to 40 minutes' time the entire clinical picture from onset of attack to complete relief of that attack. Its significance, then, lies not in the fact that hypoglycemic symptoms are produced, but rather in the fact that these induced symptoms are *exactly like those experienced by the patient in his spontaneous attacks.*

We are not advancing the provocative insulin test as a substitute for the glucose tolerance test in establishing the diagnosis of spontaneous hypoglycemia. The diagnosis still rests upon hypo-

GLYCEMIC RESPONSE TO ISOGLUCOGENIC QUANTITIES OF DEXTROSE AND PROTEIN
(Functional hyperinsulinism)

Conn, JAMA 115:1674

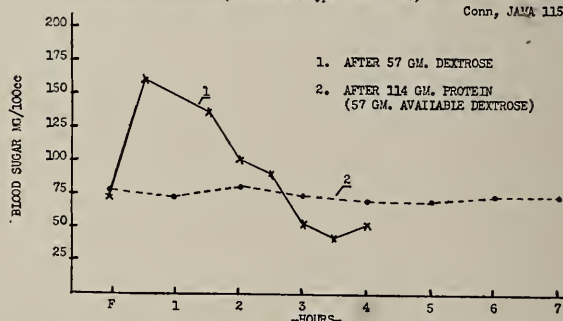


Figure 4. Effect of Protein Feeding in Functional Hyperinsulinism.

glycemia seen during the standard glucose tolerance test, as will be discussed later. As presented, however, we feel it to be a screening test usable in the office, without the time and expense, initially, of the standard six hour test.

TREATMENT

Treatment of functional hyperinsulinism is con-

servative. A diet which is high in protein (120-140 Gm.); low in carbohydrate, ranging from 50-100 Gm.; with the remainder of the caloric intake furnished by fat gives quite uniformly good results in these cases. The rationale of such treatment is based on the established clinical fact that these patients respond to ingested carbohydrate with a severe secondary hypoglycemia. It has been shown that animals given a carbohydrate-rich diet are more susceptible to insulin

From a practical point of view, the differential diagnosis lies among three major classifications: (1) The organic type due to tumors of the pancreatic islet cells; (2) that due to hepatic disease and (3) functional hyperinsulinism. These three comprise over 90 per cent of all cases of spontaneous hypoglycemia. The differentiation is made on the basis of: (1) liver function tests; (2) fasting blood sugar; (3) the clinical history and (4) the glucose tolerance test. Many authors

Table 2. Points of Differentiation in the Three Common Types of Spontaneous Hypoglycemia

| | Liver Function | Fasting Blood Sugar | | Clinical Course (Progression and time of attacks) | Dextrose Tolerance Curve (After dietary prep.) |
|-------------|------------------------------|---|--|--|---|
| | | Standard Diet | Carbohydrate Restriction (or 24 hour fast) | | |
| Functional | Normal | Normal | Normal | Not progressive in severity; more frequent under emotional or physical tension; relief by vacations, etc.; attacks 2 to 4 hours after meals; no breakfast attacks; no effect of skipped or late breakfast. | Normal fasting blood sugar with sharp fall to hypoglycemic levels between 2nd and 4th hour. |
| Organic | Normal | Subnormal (usually 50 mg./100 cc. or below) | Subnormal (always below 40 mg./100 cc. Usually below 30 mg./100 cc.) | Progressive in frequency and severity; pre-breakfast attacks frequent, 2 to 8 A. M.; attacks 2 to 4 hours after meals; attacks precipitated by skipped or late meals or exercise. | Subnormal fasting blood sugar with a low level curve and sharp fall to severely low levels between 2nd and 5th hour. |
| Hepatogenic | Usually decidedly diminished | Subnormal (Often below 50 mg. per 100 cc.) | Subnormal (always below 40 mg./100 cc. Often below 30 mg./100 cc.) | Progressive in frequency and severity; pre-breakfast the time most frequent occurrence, 2 to 8 A. M.; day time attacks rare unless precipitated by a skipped meal; sometimes clinical evidence of hepatic disease. | Subnormal fasting blood sugar with hyperglycemic plateau curve and glycosuria; gradual fall to hypoglycemic levels in 4 to 7 hours. |

CONN: J.A.M.A. 134:132.

than those fed on a low carbohydrate diet,⁶ and high carbohydrate feeding also results in increased production of insulin by the pancreas.⁷ John⁸ showed that avoiding post-prandial hypoglycemia by use of pre-meal insulin would better these patients appreciably, thereby establishing that these patients react excessively to post-prandial blood sugar peak. For these and other reasons set forth in his articles, Conn believes that the functional type has a true hyperinsulinism, and that carbohydrate restriction diminishes the insulin production of excessively responsive islet cells. The dietary protein is absorbed slowly, and conversion of 50 per cent into dextrose affords a slow steady source of sugar which eliminates the post-prandial blood sugar peak ordinarily encountered. The secondary hypoglycemia is thereby avoided (Figure 3).

It must be pointed out that the simple term "spontaneous hypoglycemia" is no more a diagnosis than is the term "pleurisy." A precise etiologic diagnosis is of vast importance because treatment of the various types is fundamentally different. A patient with organic hyperinsulinism due to an islet-cell adenoma, for example, will be in grave difficulty on the dietary regime of carbohydrate restriction which is so successful in cases of functional hyperinsulinism.

do not believe that the glucose tolerance test is of any value in distinguishing the organic from the functional type, on the basis that variable curves have been obtained in patients with proven tumors. Conn⁹ believes the glucose tolerance test is of value in diagnosis. He has attempted to teach the necessity of a standard preparatory diet for proper interpretation of the glucose tolerance test in any disease state. Antecedent diet alone may cause profound alterations in the curve obtained, as is illustrated in Figure 4. He believes that three days' preparation on a diet of 80 Gm. protein, 300 Gm. carbohydrate, with 2800 total calories yields consistent, differentiating curves in the common types of hypoglycemia which are best summarized in Figure 5.

The important points differentiating the three most common types of spontaneous hypoglycemia have been summarized in Table 2.

Recent work by Fabrykant and Ashe¹⁰ suggests the arterial (finger tip) blood sugar to be more accurate in the diagnosis of hypoglycemic states. In patients having a hypoglycemic episode, they found on simultaneously drawn specimens that arterial blood sugars were in a hypoglycemic range while venous determinations were at normal levels. One wonders, therefore, if an intravenous glucose tolerance test (which in eliminating the

factor of absorption may test more adequately true glycemic-regulatory mechanisms) with arterial blood sugar determinations might not result in more clinical impressions being confirmed by laboratory means.

Treatment depends on the etiology. The regime for cases of functional hyperinsulinism has already

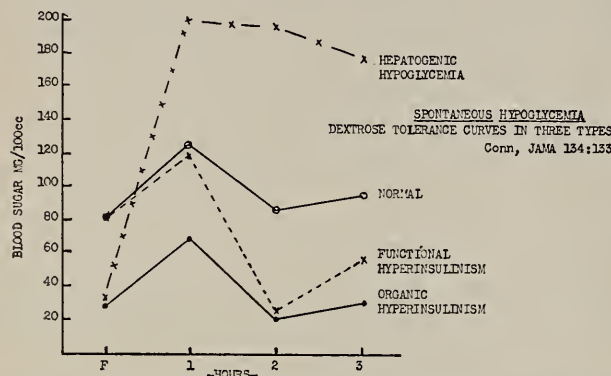


Figure 5. The Glucose Tolerance Curve in the Three Main Types of Spontaneous Hypoglycemia Following Standard Preparation.

been outlined—a high protein, low carbohydrate diet. In organic hyperinsulinism, surgery is mandatory as soon as that diagnosis is made. The hepatogenic type requires a high protein, high carbohydrate diet with bedtime feedings. In addition a surgical attack on biliary tract disease responsible for ascending cholangiolitis has been of distinct benefit in some cases of this type.

SUMMARY

Spontaneous hypoglycemia of the functional type is not uncommonly found in routine office practice. Problems in its recognition have been discussed, and a helpful, rapid test for office use aiding in detection of its presence has been outlined. A brief review of the differential diagnosis and treatment of the more commonly encountered etiologic types has been presented.

BIBLIOGRAPHY

1. Conn, J. W.: Diagnosis and management of spontaneous hypoglycemia. *J.A.M.A.*, **134**:130-137. (May 10) 1947.
2. Portis, S. A.; Zitman, I. H.: Mechanism of fatigue in neuropsychiatric patients: preliminary report. *J.A.M.A.*, **121**:569-573. (Feb. 20) 1943.
3. Portis, S. A.: Medical treatment of psychosomatic disturbances. *J.A.M.A.*, **126**:413-418. (Oct. 14) 1944.
4. Portis, S. A.; Zitman, I. H.; and Lawrence, C. H.: Exhaustion in the young business executive. *J.A.M.A.*, **144**:1162-1166. (Dec. 2) 1950.
5. Harris, S.: Diagnosis and treatment of hyperinsulinism. *Ann. Int. Med.*, **10**:514-533. (October) 1936.
6. Tiitso, M.: Influence of nutritive condition on initial fall in blood sugar after insulin. *Proc. Soc. Exp. Biol. and Med.*, **23**:40-43. (October) 1925.
7. Best, C. H.; Haist, R. E.; and Ridout, J.: Diet and insulin content of the pancreas. *J. Physiol.*, **97**:107-119. (Nov. 14) 1939.
8. John, H. J.: Case of hyperinsulinism treated with insulin: preliminary report. *Endocrinology*, **17**:583-586. (Sept.-Oct.) 1933.
9. Conn, J. W.: Interpretation of the glucose tolerance test. The necessity for a standard preparatory diet. *Am. J. Med. Sci.*, **199**:555-564. (April) 1940.
10. Fabrykant, M.; and Ashe, B. I.: Significance of arterial blood sugar in spontaneous hypoglycemia. *Am. J. Med. Sci.*, **221**:61-71 (January) 1951.

OSTEOPOROSIS AND DIABETES MELLITUS

REPORT OF A CASE

PAUL W. BERNEY, M.D.

CEDAR RAPIDS

DISORDERS of calcium metabolism associated with diabetes mellitus have been studied for some time. Bockers¹ in 1857 noted that patients with diabetes excreted more than the normal amount of calcium in the urine. The more important, subsequent literature on this subject^{2, 3, 4} indicated the following: (1) Patients with long standing, poorly controlled diabetes were prone to develop osteoporosis and other disorders of calcium metabolism; (2) The mechanisms which effected these changes were believed to be long continued, mild acidosis and the prolonged use of protein for energy purposes and (3) Patients with well controlled diabetes showed no evidence of calcium disturbances. Since these reports consisted largely of poorly controlled cases of the pre-insulin and early insulin periods, one might infer that the association of these conditions does not occur at this time. It is the purpose of this report to show that it does occur and is partly due to changes over which we have little control.

The incidence of this association in patients with diabetes as compared with non-diabetics of the same age and sex is not clearly stated in the literature. However, Moehlig,⁵ Albright and Reifenstein⁴ stated that they had seen several cases. Root and associates³ in 1934 reported two cases with crushing fracture of the vertebral body. The third report of such a case follows:

CASE REPORT

A 74 year old white woman was admitted to Mercy Hospital on April 19, 1948 complaining chiefly of backache of about four months duration.

The patient had considered herself a healthy person until 1939, when she was found to have diabetes mellitus. She did nothing about it except limit sweets, bread and potatoes. On December 1, 1947 she slipped while going upstairs and fell to the bottom. She was able to walk to her bed. The following day she was found unconscious and was taken to the hospital, where her diabetes was brought under control. The backache started three weeks later, after her return to her home and to walking. She found it too difficult to continue the use of insulin and, therefore, saw no need to follow the diet. About the middle of March she began to feel a burning discomfort around the waist. Because of increasing back pain, weakness and weight loss, she returned to the hospital on April 19, 1948.

Examination on the day of admission revealed pallor and evidence of great weight loss. Her ability to understand was impaired. Hearing and vision were good. The ocular fundi were normal except for many punctate exudates scattered

around the macula. The retinal arteries were moderately sclerotic. A mild kyphosis and tenderness of the lower dorsal and upper lumbar regions of the spine were noted. From this level a band of hyperesthesia encircled the abdomen. Roentgenograms of the spine indicated advanced decalcification throughout and marked compression of the first lumbar vertebral body.



The laboratory data were as follows: The blood serum calcium was 9.6 mg., phosphorus 3.8 mg., and the total protein 5.0 mg. per 100 cc. The serum alkaline phosphatase was 2.8 Bodansky units. The blood glucose was 304 mg.; non-protein nitrogen 30.3 mg. per 100 cc. Urinalysis showed 4 plus glucose, 1 plus acetone and slightly diminished calcium excretion by the Sulkowitch test.

The patient presented the characteristics of advanced osteoporosis occurring in a person with chronic, mild, diabetic acidosis. Had the bone atrophy been less severe but more progressive, excessive calciuria likely would have been present. Usually the laboratory findings suffice to differentiate osteoporosis from other systemic diseases with deficient calcified bone, namely osteomalacia and hyperparathyroidism. When it is associated with diabetes mellitus, the presence of two other conditions is considered. (1) The

Fanconi syndrome, a rare inherited defect of renal tubular reabsorption, characterized by excessive urinary loss of amino acids, glucose and phosphorus. A secondary acidosis may occur with excessive loss of calcium. (2) Osteoporosis associated with renal glycosuria, of which the literature records three cases.^{6, 7}

Treatment of the patient followed commonly accepted principles:

1. Unsupported bed rest until free from pain. During this time she was fitted with a dorso-lumbar support. Thereafter light activity was encouraged.

2. The caloric allowance was set to regain normal weight. A high protein and high vitamin C intake was urged to replenish serum proteins and to favor bone matrix formation.

3. Sufficient calcium and vitamin D were provided to insure optimal calcification of newly formed matrix.

4. Estrogens and testosterone were administered to diminish calcium excretion and to favor anabolism of protein.

5. Daily insulin.

After about six months the patient regained normal weight and resumed normal activity with only a mild backache. She has continued the use of insulin. Although occasional urine specimens have not been found to contain a significant amount of acetone or calcium, the blood and urine glucose tests have not been encouraging. Roentgenograms of the spine of July 1, 1950 appeared to be the same as those of April 19, 1948. This is the usual finding over periods of many months, even in well controlled cases of uncomplicated osteoporosis.

COMMENT

Modern treatment has extended the average life expectancy of the patient with diabetes to about 64 years. However, it has done little to prevent the cerebrovascular changes which are noted with increasing frequency. Dolger⁸ was of the opinion that the duration of the diabetes was the most important factor in their development. De Jong's⁹ experiences in the neurologic consulting service of a large general hospital, have led him to believe that cerebrovascular lesions are the basis of the more frequent, focal and diffuse cerebral disease in diabetes, with resultant disturbances of function. Since the latter may seriously impair the patient's ability to cooperate, a poor control of the diabetes over prolonged periods is liable to occur. This is the favored setting for the occurrence of osteoporosis in the patient with diabetes mellitus.

SUMMARY

A case of osteoporosis with diabetes is reported. The literature is summarized. It is believed the association of these conditions is often due to

poor patient cooperation resulting from cerebral damage in long standing diabetes.

BIBLIOGRAPHY

1. Bocker: *Deutsch Klin*, 1853, V, 359.
2. Morrison, L. B.; Bogan, I. K.: Bone development in diabetic children: roentgen study. *Am.J.M.Sc.*, 174:313-319 (September) 1927.
3. Root, H. F.; White, P.; Marble, A.: Abnormalities of Calcium Deposition in Diabetes Mellitus. *Arch. Int. Med.*, 53:46-53 (January) 1934.
4. Albright, F.; and Reifstein, E. C.: Parathyroid Glands and Metabolic Bone Disease. Baltimore, Md., The Williams and Wilkins Company, 1948, p. 150.
5. Moehlig, R. C.: Osteoporosis due to carbohydrate and calcium metabolic disturbances. *J. Michigan M. Soc.*, 37:509-513 (June) 1938.
6. Hunter, D.: Studies in calcium and phosphorus metabolism in generalized diseases of bones. *Proc. Roy. Soc. Med.*, 28:1619-1638 (October) 1935.
7. Cooke, W. T.; Barclay, J. A.; Govan, A. D. T.; and Neglay, L.: Osteoporosis associated with low serum phosphorus and renal glycosuria. *Arch. Int. Med.*, 80:147-164 (August) 1947.
8. Dolger, H.: Clinical evaluation of vascular damage in diabetes mellitus. *J.A.M.A.*, 134:1289-1291 (August 16) 1947.
9. De Jong, R.: Nervous system complications of diabetes mellitus, with special reference to cerebrovascular changes. *J. Nerv. & Ment. Dis.*, 111:181-206 (March) 1950.

CHANGING TRENDS IN SURGERY OF THE COLON*

GEORGE CRILE, JR., M.D.

AND

RUPERT B. TURNBULL, JR., M.D.

CLEVELAND, OHIO

THE PREOPERATIVE PREPARATION of the bowel with sulfonamides and antibiotics, the prophylactic use of antibiotics after operation and modern advances in surgical technic have contributed materially to the safety of operations on the colon. As a result of these advances it is possible at present to perform with relative safety operations which, prior to 1940, were deemed hazardous; to preserve the rectal sphincter when formerly it was often necessary to sacrifice it, and to perform primary end-to-end anastomoses in situations which at one time appeared to demand obstructive resections or complementary colostomies with attendant inconvenience and morbidity. The purpose of this study is to evaluate the present status of the various types of operations in colon surgery.

CHANGES IN PREPARATION OF COLON

Prior to 1942, patients to be subjected to resections of the colon were prepared by the use of magnesium sulfate and a low residue diet over a period of one week. Occasionally sulfonamides were given after operation, but these were used therapeutically in the treatment of established complications and not prophylactically.

From 1946 thru 1949 we prepared the bowel by administration of sulfasuxidine given in doses of 3 Gm. four times daily for seven days before operation and sometimes supplemented by streptomycin, 1 Gm. given twice daily for the last two days.

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

More recently aureomycin and terramycin have been used in doses of 500 to 750 mg. four times daily for three days together with a nonresidue diet and citrate of magnesia, 4 ounces taken before and after breakfast. The latter drugs are not only the most effective means of reducing the bacterial count in the stool,¹ but they are absorbed and are effective in controlling cellulitis and infection in the tissues around an ulcerating lesion.

PROPHYLACTIC USE OF ANTIBIOTICS

Following operation in cases in which the bowel was opened we have routinely given penicillin in doses of 600,000 to 1,200,000 units daily for the first two or three days and recently have supplanted this by the use of terramycin. The latter antibiotic appears to be more effective than penicillin in controlling infections which arise from the colon and is more effective by mouth than parenterally.

GASTROINTESTINAL INTUBATION

Since 1945 a Levine tube has been placed in the stomach just prior to operation and suction maintained for the first 24 hours to prevent distention which may result from swallowing air. In patients subjected to resection of the right colon, the intestine may be intubated prior to operation if obstruction is present, and tube left in place for two or three days or until normal peristalsis is apparent. In general we feel that prolonged intestinal intubation creates a hazard in the nonobstructed patient and in the past year we have used this form of intubation infrequently.

AMBULATION

Before 1945 patients subjected to resections of the colon were confined to bed for a week or ten days after operation. In recent years patients have been urged to walk on the day of operation and to spend as much time out of bed as possible. They are not allowed to sit in a chair however, and must actively walk or remain in bed. Leg exercises are initiated eight hours after operation and are continued until full ambulation is achieved.

ANTICOAGULANTS

Anticoagulants are used only rarely, chiefly in exceptionally obese individuals or in those who refuse to move about. Recognized embolism has not occurred in the past three years. A factor in the diminished incidence of this complication may have been the strict avoidance of leg veins in the administration of fluid or blood, a practice which may contribute to the development of deep phlebitis. Long periods of immobilization on the operating table also may be a factor in the production of thrombosis. This hazard may be diminished by wrapping the legs with elastic bandages which are left in place until the patient is fully ambulatory.

TRANSFUSION

The transfusion of blood was employed in almost all patients subjected to operations on the colon before 1942. Since 1945 we have recognized that there is a small but definite hazard in the administration of blood and have employed transfusion only when the patient is anemic or when specific indications are present.

CHANGES IN TECHNIC OF ABDOMINOPERINEAL RESECTION

We have not modified the technic of combined abdominoperineal resection as developed by Miles² and the late Dr. T. E. Jones except that, since 1946, we have closed many of the posterior wounds tightly. A small catheter is left in place and is aspirated twice daily and 200,000 units of penicillin are injected in the cavity which is subsequently clamped off. After five days the catheter is withdrawn following which there is usually no further drainage from the wound.

Posterior wounds were packed open and were allowed to close by secondary intention prior to 1946. These wounds rarely healed within three months, and often six months or more elapsed before closure was complete. Occasionally the posterior wounds became infected and the post-operative reaction, including fever and distention, tended to be more pronounced because of the infection and the foreign body reaction to the large pack in contact with the pelvic peritoneum. Ambulation was impeded, and urinary complications appeared to be more common. When the wounds are closed primarily there is little or no infection, no contraindication to early ambulation, and the patients void earlier and seem to empty their bladders more completely, possibly because they are ambulatory from the first.³ We believe that primary closure reduces inflammatory reaction in the posterior wound and hence minimizes the tendency to pelvic phlebitis and pulmonary embolism. We can see no reason to pack the posterior wound open and we credit our recently lowered morbidity more to the closure than to antibiotics.

RESECTIONS OF LEFT COLON

Obstructive resection was utilized as the standard procedure for resection of lesions of the left colon previous to 1942. The Rankin clamp was left in place for from five to six days and a colostomy was established by its removal. About the sixth postoperative day a spur clamp was applied. The patient usually left the hospital between the twelfth and fourteenth days and was subjected to the inconvenience of a colostomy for two months at home. He then returned for closure of the colostomy which required another week of hospitalization.

Since 1947 we have employed an increasing number of one-stage resections of the colon in the management of lesions on the left side (Table

I). The obstructive resection of Rankin is useful where partial obstruction is present and primary anastomosis is not feasible because of circulatory changes in the bowel and the presence of viable pathogenic bacteria. In the presence of a properly prepared bowel without obstruction, however, we believe that resection with primary end-to-end anastomosis is preferable not only because of economic factors but also because of actually

TABLE I
Resections for Cancer of the Left Side of the Colon in Cases in Which There Was a Choice Between Primary Anastomosis and Obstructive Resection

| Year | Number of Primary Anastomoses | Number of Obstructive Resections | Total |
|------|----------------------------------|-------------------------------------|-------|
| 1948 | 12 | 54 | 66 |
| 1950 | 61 | 8 | 69 |

lowered mortality and morbidity as compared with results of the multiple-stage operations. We believe that a wider segment of bowel and mesentery can be resected by this method and better protection can be assured against local recurrence of carcinoma in the abdominal wall. Since it is not necessary in one-stage resections with anastomosis to exteriorize the ends of the colon, more of it can be removed together with benign or malignant satellite lesions which often exist within a resectable distance of the malignant lesion. We believe that carcinoma below the reflection of the peritoneum should not be treated in this manner except in palliative resections in patients with distant metastasis; however many lesions which lie at or just above the reflection of the peritoneum can be resected with a generous portion of the rectum, and the continuity of the bowel can be re-established without jeopardizing the patients' possibility of cure. Although final evaluation of low sigmoidorectal anastomosis is contingent upon a longer period of observation than is covered in this series, its immediate safety is well established.

TECHNIC OF ANASTOMOSIS

Before 1942 we performed open end-to-end anastomosis of the colon with two rows of inverting continuous catgut sutures. This method was not safe because of the high incidence of obstruction and the occasional development of peritonitis due to leaks at the line of anastomosis. At this time, therefore, obstructive resection constituted a safer procedure.

In the past three years we have employed the interrupted suture technic for open anastomosis. An inner row of interrupted chromic 000 catgut sutures through all layers, with knots on the inside, approximates the bowel and is reinforced by an outer row of interrupted silk sutures. There has been only one patient who gave evidence of localized or spreading peritonitis, no abscesses were encountered, and in only one case was there any evidence of anastomotic obstruction in 126

consecutive resections performed by this technic. The bowels usually move spontaneously on the second or third day, and the period of hospitalization after operation is approximately ten days.

RIGHT COLECTOMY

In the past few years we have avoided gross contamination of the retroperitoneal space in resections of the right colon and have noticed a striking decrease in morbidity. Since the resistance to infection of the peritoneal cavity is much greater than that of the retroperitoneal tissues, we have protected the vulnerable retroperitoneal

TABLE II
Operations for Ulcerative Colitis
(Showing Change From Multiple to Single Stage Procedure)

| Year | One Stage Colectomy With Ileostomy | Multiple Stage Procedures |
|------|---------------------------------------|------------------------------|
| 1948 | 0 | 23 |
| 1950 | 22 | 0 |

area from which the cecum and ascending colon have been removed by closing the peritoneum over it whenever possible and packing it off before the bowel is transected or the abdominal cavity is contaminated. In most cases after the segment to be removed has been mobilized completely and the mesentery divided, the defect in the mesentery is repaired and peritonealization completed before transection of the colon and ileum. In this manner the anastomosis is the last event, the omentum is pulled down and the abdomen closed with a minimum of contamination. All ileocolonic anastomoses were of the open type made by the end-to-side, side-to-side, or end-to-end technic with preference for end-to-end and end-to-side technics.

ONE STAGE SUBTOTAL COLECTOMY AND ILEOSTOMY

In familial polyposis of the colon or in severe ulcerative colitis we have been impressed with the relatively high morbidity which attends procedures of more than one stage, in which operations must be performed in the presence of ileostomies or colostomies. It is difficult to prevent contamination from the previously exteriorized ends of bowel, and intestinal obstruction secondary to localized peritonitis has been a common complication. For this reason, and because in acute ulcerative colitis we believed that the patients would benefit if the major portion of the diseased colon could be removed at the same time the ileostomy was established, we have begun to perform end ileostomy and removal of the right colon, transverse colon, descending colon and as much as possible of the sigmoid at a single operation (Table II). The stump of the sigmoid is brought out just below the umbilicus in the midline where it can be removed with an ellipse of skin and without contamination at the time of the later abdominoperineal resection. The retroperitoneal space is complete re-peritonealized before

the bowel is transected so that the operation of colectomy is, for all practical purposes, an aseptic one. The course of these patients has been remarkably smooth and has justified continuation of the one stage subtotal colectomy followed by combined abdominoperineal resection as opposed to the former method of performing the operation in four stages (ileostomy, right colectomy, left colectomy and combined abdominoperineal resection).

PROTECTION OF THE WOUND FROM CONTAMINATION

Dr. T. E. Jones always emphasized the importance of protecting the wound from contamination, and invariably protected the entire wound, not just the skin edges, with gauze packs. We have added a layer of rubber between the gauze, and wall off the entire wound completely before incurring any contamination from the bowel. A clean set of gloves and instruments are used for closure, to reduce further the danger of contamination to the abdominal wound.

CHOICE OF OPERATION FOR LESIONS OF THE
LEFT COLON

The late master of colon surgery, Dr. T. E. Jones, had developed the technical aspect of the combined abdominoperineal resection to such perfection that the operation was practically aseptic and required, in his hands, no special preparation of the bowel. In resections of lesions of the left colon or transverse colon he employed the obstructive resection. Since these were exteriorizing procedures, there was no indication for preparing the bowel with sulfonamides or antibiotics, and the mortality rate of colon surgery was so low that he once performed 161 consecutive combined abdominoperineal resections for carcinoma without a death.

Despite this extraordinary record there are certain disadvantages in this method of management. Pathologic studies indicate that carcinomas located above the reflection of the peritoneum rarely metastasize downward^{4, 5, 7} unless the lymphatics above are blocked completely with tumor, in which event it would be unlikely that a cure could be obtained by any method of treatment.⁸ Therefore the combined abdominoperineal resection, which removes a perfectly normal rectum along with a cancer of the sigmoid, may be unnecessary for lesions located above the reflection of the peritoneum.⁹

Since exteriorization and obstructive resection is neither a safe nor mechanically sound method of treating lesions just above the reflection of the peritoneum, resection with anastomosis after thorough preparation of the bowel is displacing the other procedure. It should be understood, however, that resection of at least the upper 8 to 10 cm. of the rectum is necessary for lesions located at or just above the peritoneal reflection. In such cases we free the rectum to the levators

on all sides, and divide the lateral rectal stalks against the pelvic walls. The rectum and its mesentery may then be divided two to three inches above the dentate line and end-to-end anastomosis made with the remnant of the proximal sigmoid colon. Sphincteric continence is thus preserved without jeopardizing the chances of cure in many of the patients who formerly would have been treated by the Miles operation. The abdominoperineal resection fulfills all requirements of a satisfactory operation for cancer and should be employed in its most radical form in the treatment of lesions below the reflection of the peritoneum. The pull-through modification of this procedure (with preservation of sphincters) is applicable to carefully selected lesions just below this level, but should be employed with caution by those not trained in its fundamental principles.

We have employed variations of the pull-through type of operation in five carefully selected patients with low-lying papillary lesions too extensive to fulgurate but not so invasive as to necessitate sacrifice of the sphincter. In four of these instances excellent functional results were obtained, indicating that this procedure has a definite place in the treatment of selected cases.

In low lying lesions we should never jeopardize the patients' chances of cure by employing operations which do not allow the surgeon to excise the primary tumor and its zone of metastasis. The operation should be started with this in mind, and then when the tumor and its zone of metastasis are mobilized, the decision may be made as to whether the operation can be completed by re-establishment of continuity or by abdominoperineal resection.

DECREASING MORTALITY IN SURGERY OF THE COLON

Postoperative hospital mortality in colon surgery has been diminishing in the past five years. This is actual decrease in mortality since the operability rate has been increasing. The main reasons for this decrease are (1) the pre and postoperative use of the antibiotic drugs, (2) adoption of better surgical technic in anastomosis and (3) a more complete understanding of surgical physiology.

The most important reason for the lessened mortality is the use of the new antibiotic drugs plus the better mechanical cleansing of the colon. In our recent five year survey of hospital mortality for resection of the colon, peritonitis was found to be a more common cause of death than pulmonary embolism. Other causes such as cardiac accidents, septicemia, and secondary hemorrhage were infrequent. In 1947 for instance, five of seven deaths were due to intraperitoneal sepsis, while in 1950, the three deaths in 169 cases were due entirely to other unrelated causes.

The adoption of the interrupted suture technic for end-to-end anastomosis in the colon has been

a cause for lessened mortality. Since the adoption of this technic, disruption at the suture line with peritoneal contamination has almost completely disappeared as a cause of mortality. Finally, a better understanding of surgical physiology has lessened morbidity and mortality in the pre and postoperative care of patients with acute or chronic intestinal obstruction and in those patients with chronic wasting diseases such as chronic nonspecific ulcerative colitis.

SUMMARY

1. Preoperative preparation of the bowel with sulfonamides and antibiotics, and the prophylactic use of antibiotics after operation have resulted in decreasing mortality and morbidity following operations on the colon.

2. Open end-to-end anastomosis with interrupted sutures has, to a large extent, replaced the operation of obstructive resection and obviated the need of even a temporary colostomy.

3. Resection with anastomosis has supplanted the combined abdominoperineal resection in the treatment of many carcinomas located at or above the reflection of the peritoneal floor.

4. Primary closure of the posterior wound in the combined abdominoperineal resection has resulted in a striking decrease in the period of convalescence.

5. When it is necessary to establish an end ileostomy and remove the entire colon and rectum for ulcerative colitis, the operation appears to be more satisfactorily done in two than in four stages, ileostomy and subtotal colectomy being performed at the first operation.

BIBLIOGRAPHY

1. Dearing, W. H.; and Heilman, F. R.: Effect of aureomycin on bacterial flora of intestinal tract of man; contribution to preoperative preparation. *Proc. Staff Meet., Mayo Clin.*, 25:87-102 (Feb. 15) 1950.
2. Miles, W. E.: *Cancer of Rectum*. London, Harrison and Son, Ltd., 1926.
3. Crile, G., Jr.; and Robnett, A. H.: Primary closure of posterior wound after combined abdominoperineal resection of carcinoma of rectum. *Cleveland Clin. Quart.*, 17:5-8 (January) 1950.
4. Collier, F. A.; Kay, E. B.; and MacIntyre, R. S.: Regional lymphatic metastasis of carcinoma of rectum. *Surgery*, 8: 294-311 (August) 1940.
5. David, V. C.; and Gilchrist, R. K.: Abdominoperineal removal of low lying cancer of rectum; Five-year cures and local recurrences. *Surg., Gynec., and Obst.*, 89:31-36 (July) 1949.
6. Dixon, C. F.: Anterior resection for carcinoma low in sigmoid and rectosigmoid. *Surgery*, 15:367-377 (March) 1944.
7. Gilchrist, R. K.; and David, V. C.: Lymphatic spread of carcinoma of rectum. *Ann. Surg.*, 108:621-642 (October) 1938.
8. Dukes, C. E.: Classification of cancer of rectum. *J. Path. and Bact.*, 35:323-332 (May) 1932.
9. Garlock, J. H.; and Ginzberg, L.: Appraisal of operation of anterior resection for cancer of rectum and rectosigmoid. *Surg., Gynec., and Obst.*, 90:525-534 (May) 1950.

Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 505 Bankers Trust Bldg., Des Moines 9, Iowa.

THE IMPORTANCE OF LIFE PLANNING

VERN F. NELLIS*
WATERLOO

IN MANY years of experience in practice and financial management, too often there has been seen the tragic results when a doctor does not plan his life along with his investments. The choice is between retiring at the desired age on adequate income, and being forced to work indefinitely or struggle to exist on insufficient income. How many doctors have you known who were actually able to retire on a satisfactory income at the time they chose?

It is vitally important for a doctor to have someone analyze his entire program for him. Not only income and expenses, but assets and liabilities must be surveyed, together with life insurance and investments in order to obtain a case history on the doctor. Then, he is ready for "life planning."

Life planning is a systematic program to govern your financial affairs for the rest of your life. It is a plan to allow you to retire at a specific time, age 50, 55, or 60, regardless of the economic cycle of the country, inflation or depression. Our experience has shown, however, that if investments and life insurance are properly established early in life and coordinated with the changes in our economy, any doctor may plan to retire at the age of 55 and often before! The earlier the program is established, the more successful it will be.

The secret of life planning, then, is in the correlating of the doctor's entire financial picture. An analysis of life insurance, alone, will not do it; nor will good investments alone. Similarly, a large practice and income cannot promise a satisfactory retirement plan, since it does not take into consideration the outlay of income. The whole of the doctor's life is involved and no phase of it can be omitted or dealt with separately in a successful plan. Consider the many factors concerned.

Let us illustrate with "average" figures:

| | |
|---|-------------|
| Average Yearly Net Profit from Profession | \$20,000.00 |
| Less: Personal Living Expenses | 8,400.00 |
| Life Insurance Premiums | 1,600.00 |
| Federal Income Tax | 5,000.00 |
| Net Amount Left for Savings | \$ 5,000.00 |

The net profit from the profession is the amount remaining after your business expenses have been deducted from your income. It will be your desire, of course, to be certain this figure is the largest possible for the effort put forth. Two things govern this: Your office must be functioning with maximum efficiency, and your accounting system must be one designed to provide maximum tax savings. Such a system must necessarily be one that operates on a monthly basis. Accumulating figures

carefully, month by month, is the only sure means of ascertaining all deductible items. Lumping figures for your accountant or tax attorney at the end of the year, when he is forced by lack of time to accept your figures, is inviting additional taxes. This, naturally, will mean less savings as well as possible difficulty in time of audit.

After determining that your net profit is satisfactory, your personal living expenses must be analyzed to make certain they are in line with your income. Then your life insurance needs attention. Are you adequately protected, or are you overburdened with unnecessary premiums?

Having satisfied yourself that all these things are in proper proportion to your net profit, you have arrived at a maximum amount left for savings. From this amount must be paid all your capital investments, such as your home, automobiles, etc. If the entire amount (\$5,000.00 in the illustration) is spent for such investments, obviously there will be nothing available for a retirement program. Likewise, if you spend more than the proportionate \$8,400.00 for personal living expenses, it will naturally decrease the net amount left for investment purposes. This is often what happens. Assuming the \$5,000.00 is available for investment, it can readily be seen how easily a year or two years' effort and savings can be dissipated by a wrong investment. Therefore, extreme care must be given to this portion of the program also. No matter how difficult we find the accumulation of an estate, experience has shown that *the conservation of an estate is more important than its accumulation.*

Most doctors today, after a few year of practice, are earning a substantial income. The really wise doctor is the one who is conserving a reasonable part of this income and thus building his estate according to a life plan. Unfortunately, no untrained person can formulate that plan by himself. There is abundant and conflicting advice available from many sources, but in most cases it is like the blind leading the blind. Each of these sources is qualified to deal with a particular phase of your life, and his advice may well be sound in its own right. But what you need is a man who has an insight into your entire life, business and personal, who will consider your ability, potentiality, circumstances, and needs and guide you accordingly.

Yours is the choice of whom to entrust with your life planning. He will be your financial doctor—choose him and treat him accordingly. Be sure he is the most competent in that field, then cooperate with him as you expect your patients to cooperate with you. Give him your confidence and all the necessary information so he will have an adequate "case history." Remember—his diagnosis and treatment governs your financial health. The accumulation and conservation of your estate determines your whole future and, to a large extent, that of your family.

* General Manager, Professional Management, Waterloo, Iowa.

State University of Iowa
College of Medicine

CLINICOPATHOLOGIC CONFERENCE

November 14, 1951

SUMMARY OF CLINICAL RECORD

THIS 35 YEAR OLD asthenic white female had had three pregnancies. The first was at the age of 25 years, and terminated with the spontaneous vaginal delivery of a six and one-half pound normal female child at term following a 12 hours labor. The pregnancy, labor, delivery and puerperium were uncomplicated.

The second pregnancy was at the age of 28 years, and terminated with the spontaneous vaginal delivery of a 2,920 Gm. female child at term following a three hours labor. This was her first admission to University Hospitals. Labor commenced following routine medical induction and premature artificial rupture of the membranes. A second degree perineal laceration was repaired immediately. The placenta weighted 653 Gm., and was of normal appearance. The child exhibited a questionable slight degree of club foot on the left. The puerperium was uncomplicated. During this admission the systolic and diastolic blood pressures were recorded as 118 mm. Hg. and 78 mm. Hg., respectively. The usual examination of blood and urine gave essentially normal findings. Blood Wasserman and Kahn examinations gave negative findings. The results of the physical examination of the patient were not unusual.

The third pregnancy was at the age of 30 years, and terminated with the spontaneous vaginal delivery of a 3,235 Gm. female child at term following a three and three-fourths hours labor. The membranes were artificially ruptured after labor had commenced. The placenta weighed 525 Gm., and displayed a "few infarcts." The child exhibited a small fibrous polyp in the right preauricular area which was surgically excised, the wound healing by first intention. The puerperium was uncomplicated. During this admission systolic and diastolic blood pressures were recorded at 130 mm. Hg. and 90 mm. Hg., respectively. The physical examination and the usual laboratory examinations were essentially normal.

The past medical history indicated she had had measles, mumps, chicken pox and pneumonia in childhood. Tonsillectomy had been performed when she was eight years old. The past medical history was not otherwise unusual. The family history was considered non-contributory.

She was again observed in the hospital at the age of 35 years with her fourth pregnancy, 129 days before her expected date of confinement. She appeared poorly nourished. Muscle tone and turgor were poor. There was some edema of the left leg, but no appreciable edema elsewhere. Supposedly, her general health had been good,

and most points of the physical examination were recorded as negative. Systolic and diastolic blood pressures were 100 mm. Hg. and 64 mm. Hg., respectively. Serological reactions indicated she belonged in blood group "O," and was Rh type positive. Hemoglobin was 9.0 Gm. Sugar and albumin were absent from the urine, and the microscopical examination was negative.

Thirty days later she had gained about seven pounds of weight, and continued to show a trace



Figure 1. Kidney, massive cortical necrosis.

of edema without albuminuria. Systolic and diastolic blood pressures were 130 mm. Hg. and 80 mm. Hg. respectively.

Sixteen days later considerable fluid and blood passed per vaginam. Two hours later she was admitted to the hospital with pallor and weakness. She did not think she was in labor. Blood pressure was 170/100 mm. Hg.; ankle edema was conspicuous (3 plus); albuminuria was severe (4 plus); erythrocytes, leucocytes, and many granular casts were in the urinary sediment; and hemoglobin was less than 7.5 Gm. Nitrazine paper showed an alkaline reaction to the fluid seeping from the vagina. A sterile vaginal examination was performed, and the membranes were found intact. They were artificially ruptured, and a foot was felt through the cervix. About four hours following admission, a stillborn, premature male fetus (845 Gm.; 36 cm. in length) was delivered from breech position. The 350 Gm. placenta, described as "very senile," separated spontaneously and was delivered by simple expression. About 700 cc. of old blood clots were delivered with the placenta. Systolic and diastolic blood pressure readings ranged between 175-198 mm. Hg., and

90-100 mm. Hg., respectively, during the delivery and immediate post partum periods.

The day following delivery, she continued to complain of blurred vision and pain in the low back, denying pleuritic type pain. There was moderately severe edema about the face, eyes, hands and legs. Examination of ocular fundi revealed hazy retinas, and nerve heads with normal cupping and distinct margins. Fine crackling rales were present in both lung bases. The heart was not enlarged, but there was a systolic murmur which did not disappear with inspiration at the

venesection was unsuccessful. An attempt to aspirate the pericardial cavity was made, and no fluid was obtained. An electrocardiogram was taken just before death.

Abstracted by Jack M. Layton, M.D.

CLINICAL DISCUSSION

Dr. Jack M. Layton, Pathology: May we open the case presentation by having the student opinion?

Junior Student: The students considered several diagnoses. Three-fourths of the class considered

| I N T A K E | | | | O U T P U T | | | |
|------------------------|--------------------------------|-----------------|--------------|--------------|----------------|---------------------|-------------------|
| | Intravenous ml. | By mouth ml. | Total ml. | Urine ml. | Vomitus ml. | Other (est.) ml. | Est. Total ml. |
| Day of delivery | 1000, blood | | | | | | |
| Post partum day 1st | 500, blood 450, 5% glucose | 300 | 1250 | 0 | 450 | 1000 | 1450 |
| 2nd | 500, blood 500, 20% glucose | 0 | 1000 | 0 | 0 | 1000 | 1000 |
| 3rd | 625, blood 500, 10% glucose | 0 | 1125 | 7 | 0 | 1000 | 1000 |
| 4th | 1000, 10% glucose | 0 | 1000 | 5-10 | 20 (?) | 1000 | 1000 |
| 5th | 800, 10% glucose | 200 | 1000 | 5 (?) | 100 | 1000 | 1100 |
| 6th | 580, 10% glucose | 400 | 980 | 30 | 110 | 1000 | 1140 |
| 7th | 600, 10% glucose | 300 | 900 | 25 | ? small | 1000 | 1100 ? |
| 8th | 600, 10% glucose | 580 | 1180 | 10 | 10 | 1000 | 1020 |
| 9th | 400, 10% glucose | 650 | 1050 | 50 (?) | 70 | 1000 | 1120 |

base and apex. An electrocardiogram was interpreted as a normal tracing.

Over the course of the next nine days she put out insignificant amounts of urine. Generalized edema, venous distention (175 mm. of water in median basilic vein), positive hepatojugular reflux, pulmonary rales, and a gallop rhythm at the apex of the heart were persistent findings. There were differing opinions on the use of blood transfusions in the management of the case.

On the fourth post partum day, digitalization was begun. On the next day she was noticeably lethargic and less alert. On the next day digitoxin administration was discontinued, no noticeable effect on the patient's condition having been observed. Her condition progressively deteriorated. The increased venous pressure continued to be vexatious, and it was decided to give 0.1 mg. doses of digitoxin on the ninth post partum day. Although lethargic, she seemed relatively well oriented and cooperative.

In the afternoon of the tenth post partum day, she unexpectedly began to have Cheyne-Stokes type of respiration, increasing coma, deepening cyanosis and a slow heart beat. The pulse rate was 20-30 beats per minute, and systolic and diastolic blood pressures were 90 mm. Hg. and 60 mm. Hg., respectively. Tourniquets were applied to three extremities with some improvement in the respiration, but no improvement in the heart beat. An attempt to withdraw blood by

pre-eclampsia a likely diagnosis and the whole class diagnosed abruptio placentae. As for the kidney lesion, bilateral cortical necrosis and lower nephron nephrosis were considered. We could not reach any truly differentiating point between them. Also considered was utero-placental apoplexy. The majority of the class believed the cause of death was cardiac failure. Hyperkalemia was considered as leading to it.

Dr. Stephen A. Forbes, Radiology: Three chest films were available. The first was a routine miniature stereo chest film taken during the patient's pregnancy about one month before admission to the hospital. This examination showed a heart of normal size and contour. The lung fields were clear. Nothing was seen at that time to suggest pulmonary congestion or the presence of pleural fluid. The second film was taken with the portable unit on the second day of the patient's anuria, and showed great increase in broncho-vascular markings throughout both lung fields as well as accumulation of fluid at the left base. Five days later, the final film showed further increase in the degree of pulmonary congestion and pleural effusion had become bilateral. It could also be seen that the subcutaneous tissues of the chest wall had increased considerably in width during the five-day interval between the last two films. This was due to accumulation of fluid in the subcutaneous tissues and was recognized as part of the generalized edema.

Dr. Layton: During the course of what was considered an uneventful pregnancy, an unexpected complication arose. Dr. Keettel, what do you think this unexpected complication was?

Dr. William C. Keettel, Jr., Obstetrics: Rather typical signs of premature separation of the placenta are given from the information at hand. Note the development of pain, irritable uterus, vaginal bleeding, signs of toxemia and the absence of fetal heart sounds in a patient having an otherwise normal pregnancy. Since the patient was toxic and the external bleeding was so mild, one

Our next problem was, would the uterus contract, was it infiltrated with blood; in other words, did the patient have the so-called Couvelaire type of uterus? This uterus contracted very well in labor and contracted equally well post partum, so there was little post partum bleeding. The placenta was senile in appearance, but no mention was made about adherent clots or depression from a previous hematoma.

Following delivery the patient was given morphine and magnesium sulfate because there was some concern about the possibility of convulsions.

| Post partum day | Blood Pressure (mm.Hg.) | BUN (mg./100 cc.) | Creatinine (mg./100 cc.) | CO ₂ Capacity (cc.) | Blood Chloride (mg./100 cc.) | Serum Na (mg./100 cc.) | Serum K (mg./100 cc.) | Blood Uric Acid (mg./100 cc.) |
|-----------------|-------------------------|-------------------|--------------------------|--------------------------------|------------------------------|------------------------|-----------------------|-------------------------------|
| 1st | 150/85 | — | 3.8 | 39 | — | — | — | — |
| 2nd | 120/75 | 46 | 5.5 | 34 | 670 | 290 326* | 26.7 33* | — |
| 3rd | 130/78 | 72 | 7.3 | 34 | 607 | — | — | — |
| 4th | 150/95 | 84 | 9.6 | 33 | — | 295 | 29 | — |
| 5th | 180/100 | 92 | 9.6 | 34 | 625 | — | — | — |
| 6th | 200/102 | 103 | 9.6 | 35 | — | — | — | 9.5 |
| 7th | 200/100 | 114 | 11.5 | 28 | — | — | — | — |
| 8th | 180/80 | — | 8.0 | 25 | — | — | — | — |
| 9th | 180/110 | 124 | 13.2 | 23 | 580 | 280 | 30.0 | 10 |
| 10th | 90/60 (terminal) | 137 | 13.2 | 30 | — | — | — | — |

* By flame photometer method

would have to consider this a toxic type of separation with the concealed type of hemorrhage. This is a much more serious type of separation.

Another diagnosis to be considered would be pre-eclampsia, since the previous blood pressures were normal; however, she is a 35 year old multigravida and developed this toxemia at six lunar months. All this is more consistent with a previous hypertension and a superimposed toxemia. Thus it would seem that pre-eclampsia would be unlikely.

Another condition which must be considered in the differential diagnosis is rupture of the uterus; the anemia and the absence of fetal heart tones favor this. However, elevated blood pressure, absence of labor and history of no previous section, is against that diagnosis.

The patient was typed, cross-matched and given blood. Since the patient was anemic previously, that may in part account for the severe degree of anemia. As soon as the patient was stabilized, the next thought was to empty the uterus as soon as possible so as to prevent further hemorrhage. A sterile pelvic examination revealed the membranes to be intact and the cervix was 2 cm. dilated; the previous bloody fluid no doubt was serum from the clotted blood. Following the rupture of the membranes the cervix dilated rapidly, and thirty minutes later a stillborn child was delivered that weighed 875 Gm. Following expulsion of the child, about 700 cc. of clotted blood escaped.

The patient's condition improved and the obstetricians were congratulating themselves on how well this serious complication had been managed. The next morning the nurse, on repeated attempts at catheterization, found there was no urine. An indwelling catheter was inserted by one of the physicians, and after several hours, when no urine was obtained, we had the first inkling that we were in trouble with this patient. She had survived the immediate danger period of shock and hemorrhage, but she had developed an equally, if not more, dangerous problem of renal suppression.

Dr. Layton: This case also became a problem for the medical consultant. We shall let him tell us how she appeared on the ward from day to day.

Dr. David Sinton, Medicine: Dr. Kingsbury saw the patient on the first day and found the situation as described. At that time she was about 20 hours in the period of anuria, and he believed a lower nephron nephrosis secondary to toxema was responsible. It was thought that the patient would live and that a diuresis could be expected between the eighth and twelfth day. By that time she had received 1,500 cc. of blood and 450 cc. of glucose. This would constitute a fairly large amount of saline for a patient who was forming no urine. The lungs were congested, and there was peripheral edema, increased venous pressure, and tachycardia. It was recommended that no more fluids be given for the next 24 hours.

I saw her the next day at which time she had received 500 cc. of blood and 500 cc. of 20 per cent glucose. We gave no additional fluid that day. Our reasoning was as follows: We estimated that she had lost nothing in the urine, that she had vomited approximately 450 cc. of material which was not tested for salt content, and that she had lost approximately 1,000 cc. by the lungs and skin. The sodium chloride content of sweat was disregarded in our calculations. It was thought that the 1,000 cc. which she had already received was sufficient for that day. There was some discrepancy in the serum sodium and serum potassium, but we did know the serum potassium was elevated. The blood urea nitrogen and blood creatinine levels were elevated. Salt solutions were withheld because she could not excrete appreciable amounts of salt. We tried to replace each day the water lost from the skin and lungs plus what was vomited. She was not passing stools at that time.

On the third day of anuria, there was no appreciable clinical change. On the fourth day of anuria we were becoming increasingly concerned with her peripheral edema and her congestion. She had an elevated venous pressure, approximately 175 mm. of water. In consultation with Dr. Sheets, we decided to begin digitoxin and estimated the patient would require between 1 mg. and 1.4 mg. digitoxin. We gave her 0.4 mg. twice that day and noticed no change. We gave the estimated 1,000 cc. of fluid. She had no significant fever, so I think the estimate is valid. On the fifth day she was given 0.2 mg. digitoxin. By this time the blood pressure had risen to a systolic pressure of 180 mm. Hg. and the diastolic pressure to 100 mm. Hg. On the sixth day she complained of thirst and dry mouth. Small amounts of fluid were allowed orally. The difference between the oral intake and the estimated loss was made up by 10 per cent glucose. The oral intake was carefully estimated for 24 hours of the preceding day and an additional 800 cc. of glucose was given. She was allowed a small amount of orange juice. The amount of sodium in orange juice is negligible for our calculations. The amount of potassium is 190 mg. in 100 grams of orange juice. The average glass contains 200 grams of orange juice, so she got no more than 0.4 grams of potassium per day if the entire oral intake was orange juice, and I am sure it was not. This would not alter the potassium concentration of the body at a detectable level in her serum. On the sixth day the heart rate was noticed to be 60 and digitoxin was discontinued. We were afraid of giving an overdose of digitoxin in this patient because she had no means of excreting the conjugated form of digitoxin in the urine. We had no way of estimating when she would be saturated with the drug. As you can see, there was a gradual increase in the blood pressure, the blood creatinine and the blood urea nitrogen; serum sodium

stayed at approximately the same level. Potassium concentration gradually rose. On the sixth day the total blood volume was 77 ml. per kilogram (normal for this patient would be 66 ml. per kilogram); plasma volume was 55 ml. per kilogram (normal would be 41 ml. per kilogram).

On the ninth day it was thought she was beginning to pass urine, and there was some minor clinical improvement. During the period of anuria she was quite alert and cooperative. She was seen at 2:30 p. m. by one of the residents and found to be unchanged. The nurse noticed a peculiar respiration at 3:20 p. m. Fifteen minutes later the blood pressure was 90/60, the pulse was very slow, and the patient was comatose. We thought perhaps she had developed acute heart failure due to the overloading of her circulation. Tourniquets were applied to the extremities and the situation improved slightly. Venesection was attempted, but was unsuccessful. After the heart beat stopped, adrenalin was injected into the heart and the pericardium was aspirated, but no fluid was obtained.

Dr. Layton: It was apparently quite a problem at the time whether this patient should receive blood or some other type of infusion. Dr. Keettel, would you care to mention briefly why the obstetricians thought she ought to have blood?

Dr. Keettel: It has been the experience of most obstetricians that patients with marked anemia do very poorly post partum. Remember the hemoglobin two weeks before was 9 Gm., and now there had been considerable blood loss. Despite 1,000 cc. of blood given the day of delivery, the hemoglobin was 7 Gm. the next day. Anemic obstetrical patients are prone to develop severe sepsis, and this can be a serious problem in a patient with poor urinary function. Another serious complication that we fear is thrombophlebitis; it would be tragic to manage the complication well only to have her die from a fatal pulmonary embolus on the eighth day. It was realized that by giving blood there was danger of cardiac failure and danger of electrolyte imbalance, but it would seem that these dangers were not so real or serious as those of sepsis or thrombophlebitis.

Dr. Layton: Dr. Sinton, would you care to comment on why you thought she should have glucose?

Dr. Sinton: We did not want to give this patient any fluid which would increase the blood volume which was already elevated. She had pulmonary edema, and we did not want to give solutions which would contain significant amounts of electrolyte. Plasma itself would increase the blood volume. I do not believe we had a true indication of the actual number of red blood cells which were circulating because of the markedly expanded vascular space. We probably could have given washed or decanted red blood cells safely.

Dr. Layton: Maybe we could have a moderator on these two points of view. Dr. DeGowin would you care to give us your views of this situation.

Dr. Elmer L. DeGowin, Medicine: This woman was obviously in a precarious position and it was a problem of deciding which was the more precarious, her circulation which she could not do without or her anemia which might tend to make her more vulnerable to infection. I think I would have to accept the view that the circulation was in the more precarious state and in addition, the kidneys were not functioning.

One other thing that has not been mentioned, and that is two sources of potassium in giving blood transfusions. It has been shown that in normal subject, at least, the administration of sodium itself, even by mouth, when not covered with chloride, tends to force potassium out of the cells. These experiments were published several years ago by Newburg and his co-workers in which normal subjects were put on a balanced study and were given a certain amount of sodium chloride by mouth which was recovered almost quantitatively in the urine. When, however, equivalent amounts of sodium were given in the form of sodium citrate, the sodium was recovered in the urine and the chloride output diminished; but what was rather surprising was that the potassium excretion went up. They were on constant potassium intake as well as on constant sodium intake so that the conclusion was that the sodium, not balanced by the chloride ion, was forcing potassium out of the cells. When blood transfusions are given at the present time, we have practically no other way except to use sodium citrate as an anticoagulant. There is an appreciable amount of sodium, but not any chloride, in the preservative mixture which we use. Usually it is the custom to give a small amount of sodium chloride intravenously to start the transfusion, but as Dr. Sinton has pointed out, there is much sodium not covered by chloride ions.

Secondly, in the use of preserved blood, there is likely to be a considerable amount of potassium which has diffused from the erythrocytes into the plasma, the fate of which is somewhat doubtful. The red cells contain normally about twenty times as much potassium as the human plasma. During storage, within a few hours, potassium starts going out of the cells. Under usual conditions where the patient's kidneys are working and the transfusion is not given too fast, that amount of potassium does no harm. In this particular patient it might have.

As Dr. Layton very aptly stated, it is much easier to be wise in retrospect. There is one item here that, in retrospect, I think would possibly be important. On the second day of the anuria the serum potassium was already raised much above the normal level. Ordinarily one does not expect that in a patient who has been anuric for a day or so. Either there was an accumulation of

potassium in the blood and plasma before the anuria occurred or some other mechanism damaged many body cells and released potassium into the plasma about the time of delivery.

As far as the cause of death is concerned, I would not be able to guess whether the patient died with hyperpotassemia or of cardiac failure.

Dr. Layton: Another problem was whether or not to give her digitalis or one of its derivatives from time to time. It was begun, and stopped, and begun again. She had a persistent venous pressure which was also perplexing.

Dr. Raymond F. Sheets, Medicine: This patient definitely was in congestive failure. Thus, she should be treated with digitalis. I think she got 1.2 mg. the first time. The reason for choosing that dose was that it is an average dose for most patients this size. We did not obtain the usual response, such as slowing of the heart rate, increased forcefulness of the beat and diuresis. Since she was anuric, it was not necessary to give her a daily maintenance dose of digitoxin because it was not being excreted in the urine. Work done in the past has shown a large amount of the digitalis comes out in the urine. Whether this is entirely correct or not, I do not know. This should be elucidated in the near future with the use of C^{14} tagged digitalis preparations. The reason for the additional dose of 0.1 mg. was to increase the amount without causing any additional hazard from digitalis poisoning. She did not obtain a good response from digitalis. The reason for that I do not know.

There are some other peculiar things about this patient I would like to comment about. One is that she lived only ten days. With this sort of therapy, we would expect that she would live a longer period of time. There was no oversight in her therapy which would necessarily lead one to suspect she would not live at least two weeks or longer. There are some modifying factors here that we don't well understand. One is the pregnancy. What occurs during pregnancy to increase the blood volume? Did she have a generalized disease involving the myocardium? We did not anticipate the increase in potassium which may have been incident to the delivery with the intrauterine hemorrhage.

Dr. Layton: Three electrocardiograms were made. Dr. January, will you discuss them?

Dr. Lewis E. January, Medicine: The first two electrocardiograms were normal. It is perhaps noteworthy that the second tracing, made after the patient was digitalized, shows no digitalis effect. It is unlikely then that digitalis intoxication contributed to her decline. I note that the student opinion reflects the belief the potassium retention contributed to the congestive heart failure. To the contrary, it may be said that experimental evidence indicates that potassium intoxication does not cause circulatory failure until certain terminal disturbances appear shortly be-

fore cardiac arrest. These terminal events, as determined electrocardiographically often occur sequentially, as follows: The cardiac rhythm becomes irregular due to momentary pauses which follow sinoauricular arrest. Sinoauricular activity become so erratic that only an occasional P wave is seen and ventricular activity then is initiated by an idioventricular pacemaker. All auricular activity finally ceases and the idioventricular rhythm is characterized by grossly deformed ventricular complexes showing great variability in form, rhythm and rate. Terminally cardiac arrest occurs, which may or may not be preceded by a short burst of ventricular fibrillation. It should be stated that hyperkalemia does affect the electrocardiogram in other ways in advance of the terminal changes, but tracings on this patient did not show them.

The abnormalities in the tracing taken just before the death of this patient are consistent with the terminal events of hyperkalemia. Final failure of sinoauricular activity is seen and the slow and variable idioventricular rhythm is striking. The tracing was not continued to cardiac arrest, but at one point 11.4 seconds elapsed between ventricular complexes.

NECROPSY FINDINGS

Puerperal type changes were noted in the female reproductive organs. Both kidneys were moderately swollen and soft, the capsules stripping easily from red and yellow mottled surfaces. A thin subcapsular cortical zone was mostly intact, but the bulk of the components of both renal cortices showed necrosis. A very thin zone of intact tubules was present immediately adjacent to the medulla in some sections. Thrombi were present in many renal arterioles, arcuate arteries and interlobular arteries. Some of the thrombosed vessels showed fibrinoid degeneration of their walls. Varying degrees of interstitial, glomerular and tubular hemorrhage occurred, as well as scattered foci of inflammatory cells. Some of the glomerular tufts were hyperplastic. The medullas were essentially spared.

The lungs showed congestion, edema and thickening of the septa, with a patchy type of pneumonitis. Areas of emphysema alternated with the patchy collapse and pneumonitis. Many small vessels contained thrombus material.

The heart, liver, pituitary gland and brain did not show any significant anatomical abnormality. Patchy dilatation of pancreatic acini was present. Left hydrothorax (600 cc.) and generalized interstitial edema were other significant findings.

NECROPSY DIAGNOSIS

Bilateral cortical necrosis, kidneys.

Pulmonary congestion and edema with patchy pneumonitis and emphysema.

Hydrothorax, left (600 cc.).

Interstitial edema, generalized.

Puerperal type changes in female reproductive organs.

Dr. Layton: This is a case of bilateral cortical necrosis of the kidneys, a condition which occurred predominantly, but not exclusively, during pregnancy. It may follow poisoning by diethylene glycol, dipropylene glycol, dioxane, methyl and butyl carbitol, the administration of camphor intravenously, thyroid extract, cobra venom and alcohol. We have seen it in association with burns, shock, and some severe infections such as diphtheria, scarlet fever, cholera, dysentery and therapeutic malaria.

The pathogenesis is somewhat obscure. It can be produced experimentally with pitressin, adrenalin and staphylococcic toxin. In current vogue, I think, is the idea that this type of lesion represents the clinical manifestation of the Trueta shunt mechanism. A more recent idea with regard to the pathogenesis of the lesion is that it represents one of the thromboplastic complications of pregnancy. At the time of separation of the placenta there is said to be release of excessive amounts of thromboplastic substance into the circulation with wide-spread disseminated fibrin embolism, thromboses, and, in some cases, the production of these lesions. In vogue for some time was the idea that the lesion was primarily a thrombo-embolic disorder which tended to be localized in kidneys. This fell from repute, but is again gaining some converts. Thromboses in this particular case are quite striking and whether it be cause or effect, I am not exactly prepared to say.

Since the condition is seen predominantly but not exclusively during pregnancy, I should like to have Dr. Keettel summarize briefly the problem of bilateral cortical necrosis as an obstetrical complication.

Dr. Keettel: Premature separation of the placenta is a serious obstetrical complication. The maternal mortality is 1.7 per cent with external bleeding as compared with a mortality of 11.8 per cent with internal hemorrhage. The fetal loss is about 80 to 90 per cent particularly with the complete type of separation. During the period of delivery, the real problem is control of hemorrhage and shock and a great many of the deaths occur during this period. There are also some deaths due to cerebral accidents and cardiac complications. However, after the patient is over the danger of shock and hemorrhage, there is the problem of oliguria or anuria arising from a lower nephron lesion or cortical necrosis. These are not common complications, but are serious problems once they develop. These lesions occur almost exclusively in patients with a toxic type of separation with concealed bleeding who are delivered prematurely between the twenty-sixth and thirty-third week. As a rule they are multiparous and older patients. Cortical necrosis occurs most commonly in obstetrical patients following the above

complications. However, lower nephron lesions may be seen associated with post partum hemorrhage, yellow atrophy of the liver, eclampsia, infected abortions, incompatible blood transfusions and rupture of the uterus. The differential diagnosis between these two lesions is difficult. The treatment is the same; however, the prognosis is different.

One point that is well to consider is, what can be done to prevent this complication. There is good evidence that the cortical necrosis develops immediately after or may even precede the separation. Urinary studies on patients who have had traumatic separation of the placenta have revealed the syrupy brown urine and beginning oliguria before clinical symptoms have developed. It has also been shown at autopsy that in women dying of shock and hemorrhage from separation, severe renal lesions are found. Had these women survived the shock period, they would have developed the cortical necrosis or the lower nephron lesion days later and died from this complication. Evidently there is something that happens either before the separation or with the separation that gives rise to this type of renal lesion. The obstetrician is so serious in his desire to deliver the patient and control the shock and hemorrhage, that he does not consider what can be done to prevent oliguria and anuria. If one believes that arteriospasm is the cause, perhaps high spinal anesthesia may be of help, or one of the drugs to relieve spasm might aid. If one feels the complication is due to the release of thromboplastin and the release of fibrin emboli, the prevention would be difficult in the light of our present day knowledge.

She had excellent fluid balance management. Naturally it would be felt her obstetrical management was good. This represents one of the non-preventable obstetrical catastrophes.

Dr. Rubin H. Flocks, Urology: Have you seen any survivals with this type of anuria?

Dr. Layton: No.

Dr. James W. Culbertson, Medicine: In regard to the question of fluid balance, I would like to raise the question of whether or not an estimated 1,000 cc. of insensible water loss might not be too high. Perhaps 500 cc. would be a better estimate in patients without a very high fever. Although one might not be able to save these patients with bilateral cortical necrosis, there are patients with lower nephron nephrosis who might be saved if one can possibly restrain himself from overtreating them with too much fluid.

Dr. Donald McEwen, Surgery: I would like to ask Dr. Keettel why he does not feel this patient had pre-eclamptic toxemia? When first seen she had all the classical signs which suggest this diagnosis. Do you really believe, Dr. Keettel, that these findings on admission to the hospital could be accounted for as sequelae to her premature separation of the placenta? It would seem strange

that such fulminating signs could be present after an interval of only three hours from the catastrophic episode. I would suggest that this patient did have a severe fulminating pre-eclamptic toxemia. How else can one explain the disruption of the chorio-decidual space? It is also important in treatment, for such a diagnosis would suggest sedation and resuscitation rather than attempts at immediate delivery. Labor at this time can only accentuate the stage of collapse, but delivery will proceed quite normally after the uterus has regained its inherent ability to undergo spontaneous contraction and retraction.

Dr. Keettel: There must be certain patients who develop the hypertension at the time of separation; in other words, the condition that causes the separation of the placenta might cause the hypertension and albuminuria. It is my impression that the pre-eclamptic patient seldom, if ever, develops separation of the placenta. Most commonly it is the hypertensive with superimposed toxemia. There are many aspects of this case that seem to fit in with a hypertensive type: the age, parity, and the fact the complication developed around the twenty-fourth week of the pregnancy. It is realized that she had a normal pressure before, but it seems more likely to be a hypertensive problem.

Dr. Russell Meyers, Neurosurgery: In view of the possibility that the pathogenesis of this disorder includes or may include arteriolar spasm of the Trueta type, would you be willing to countenance the thought that in incipient cases of this sort, which might come along in the future, we be allowed to see the patient and possibly suggest splachnicectomy? Would that be consistent with good physiology as far as you are concerned? I think the suggestion of high spinal anesthesia carries many side effects if it is going to be continued long enough to be effective in ruling that arteriolar factor in or out, and a splachnicectomy is an operation we do very regularly without very many enduring side effects.

Dr. Keettel: Certainly we would be glad to have any help we can get. But again it must be pointed out that this is a real obstetrical emergency, and we feel that these patients should be delivered and the uterus emptied as soon as possible or else they may die of hemorrhage. If there were some way to prevent this complication, we would certainly like to have you people see these cases and offer any suggestions that you might have, because we feel helpless as far as these renal complications are concerned.

Dr. Layton: In summary, we have the case of a woman 35 years old who had had three pregnancies essentially uncomplicated. During her fourth she developed a premature separation of the placenta and one of the uncommon complications, bilateral renal cortical necrosis. She was oliguric or anuric for ten days, and terminally the electrocardiogram showed that she had changes consistent with hyperpotassemia.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MRS. MARILYN McLAUGHLIN, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.....Van Meter
DANIEL A. GLOMSET, M.D.....Des Moines
TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

ROBERT N. LARIMER, M.D., Trustee.....Sioux City
LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M. D., Trustee.....Newton
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

*Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9*

Vol. XLII JANUARY, 1952 No. 1

1952 IS HERE

Once more it is a pleasure to continue the pleasant custom of extending to the readers of the *Journal* the best wishes for the coming year.

Nineteen hundred fifty one proved to be an interesting year for the medical profession in spite of the attempts of governmental planners to foster socialism. Certainly the friends of medicine rallied to our support in no uncertain terms. However, we must continue to resist, with all of the support possible, the further efforts which undoubtedly will be made to regulate the practice of medicine during 1952.

Advances in research have seemingly approached the occult. We have been told that the male fetus releases enough male hormones into the maternal circulation to be detected in the mother's saliva. Testing the saliva of 400 women, three to four months before delivery, 92 per cent of the predictions about the sex of the child proved correct. A "positive" test indicated a boy child, a "negative" test, a girl. Also that a blood test to detect insanity has proven 83 per cent accurate. When exposed to ultrasonic sound waves, blood from sane and insane persons clots in varied patterns and speeds. The results of the use of ACTH and Cortisone continue to provide numerous instances of dramatic relief in the treatment of arthritis and other related conditions.

The coming year will undoubtedly provide many types of advances in the treatment of problem patients. One of the changes which will occur will be the initiation of one-month preceptorships granted to senior medical students at the State

University of Iowa College of Medicine. This new plan will probably become effective in June at the completion of the current academic year. The plan is designed specifically, to provide medical students the opportunity to observe closely and under ideal conditions the activities of a private physician in conduct of his practice, study carefully the modern methods of medical care as employed in the home and in the office by a private general practitioner and to observe the close personal relationships of the private physician to his patient.

The initiation of an active Grievance Committee has been perhaps the most dramatic aspect of our attempt to improve our public relations. Undoubtedly many of the Society members have been impressed with comments engendered by the television programs sponsored by the State Society. Already we look forward to an outstanding annual meeting in April.

As we pause on the threshold of 1952, the State Society has good reasons for feeling proud of progress made during 1951. With continued unity of effort there is no reason why the coming year cannot hold even more opportunities for each one of us.

OFFICE PLAQUE

One of the criticisms frequently encountered in the relationship of the physician to his patient has been the question of fees. In order to eliminate this factor the American Medical Association has prepared an attractive plaque suitable for display in the doctors' waiting room or office entitled "To All My Patients." The following is printed in good taste: "I invite you to discuss frankly with me any questions regarding my services or my fees. The best medical service is based on a friendly, mutual understanding between the doctor and patient."

This plaque is now available from the American Medical Association, 535 North Dearborn St., Chicago 10, Ill., for the nominal fee of \$1.00. All members of the State Medical Society are urged to take advantage of this simple method of alleviating one of the distressing criticisms which has become a major offender in good public relations. The physicians who display this plaque undoubtedly will be surprised at the favorable comments it engenders.

APPENDICEAL PERITONITIS AND THE
"PERIOD OF PREPARATION"

During the last half century, appendicitis doubtless has figured in more editorials than any other surgical condition. This subject always merits attention and interest—whether in the "doctor's cloak room" or in the halls of the most learned surgical societies. As the most common cause of abdominal surgery, appendicitis and its

treatment mirror the strides of surgical technic, as it is led by its handmaidens physiology and biochemistry. The impact of these allied sciences upon the treatment of appendiceal peritonitis has been tremendous and continues relentlessly.

The treatment of uncomplicated acute appendicitis is simple and satisfactory; the treatment of appendicitis with obvious peritonitis is a real problem. These patients are desperately ill, and the rapid treatment of this dehydration-toxemia syndrome is of far greater importance than the surgeon's technical abilities, whether he be master or apprentice. During this period of preparation the following means should be employed or considered: 1. Naso-gastric suction; 2. Rapid hydration; 3. Glucose to combat ketosis; 4. Intelligent replacement of electrolytes; 5. Whole blood; 6. Large doses of antibiotics given intravenously and 7. Cortisone, if chronic shock is in evidence. The use of these measures over a four to eight hour period is time saved. At the end of this interval, unless an obvious localized mass is present, a pink-cheeked, alert patient may be taken to the operating room for definitive appendectomy. If an appendiceal abscess is present, the treatment is amplified as continued therapy until: 1. Improvement is not maintained and the abscess is drained, appendectomy being performed, if feasible. 2. The patient leaves the hospital with the abscess completely absorbed, and an appointment for interval appendectomy several months later.

Appendiceal peritonitis is a systemic disease. The surgeon must first aid and abet the bodily economy in mustering up its every resource—and then remove the offending appendix. Abe Martin once said, "A good set of bowels is worth more to a man than any amount of money." To paraphrase this homely philosopher could we not say, "Skillful preoperative preparation is worth more to the toxic patient than any amount of technical skill."

AMA DUES FOR 1952

There have been several changes made by the American Medical Association in regard to its membership dues for 1952. First, physicians who have reached 70 years of age may request that their membership dues be waived and this will relieve them of the payment of the \$25. The request should be made through the county and state society so that the records of both those associations may be correct with regard to the physician's status.

Second, there will be no Fellowship dues for 1952. These dues have been confusing to many Fellows the past two years, and their abolition will be a step in the right direction.

Third, members of the American Medical Association may now receive the Journal of the American Medical Association or another specialty journal published by the American Medical

Association if they prefer. Up until now, this choice has been limited to Fellows.

Fourth, membership dues for physicians entering military service will be remitted on a semi-annual basis regardless of the status of county and state society dues.

There is no change in the requirement that back dues to the AMA must be paid before a physician can be reinstated. Here in Iowa that is not much of a problem, since 95 per cent of our dues-paying members have paid their AMA dues. The five per cent who have not paid cannot be reinstated in the AMA until they pay their 1950 and 1951 AMA dues.

Representation in the House of Delegates of the American Medical Association will be based upon membership in the AMA in the future, and Iowa will fare all right in that regard.

The AMA is doing a great deal for the physicians of the country through its many activities. Its officers are devoting much time and thought to how the Association may best serve the people of the United States. At the December clinical session held in Los Angeles, two days were devoted to a Public Relations symposium which was outstanding. The scientific meeting was exceptionally good; the exhibits were noteworthy and the television programs provoked much favorable comment.

At the risk of being called repetitious, we still want to say that it's your AMA, and you should be proud of it. It deserves that and more.

AMERICAN MEDICAL EDUCATION FOUNDATION

From time to time we have asked for contributions to the American Medical Education Foundation through these columns and we would like to do so again at this time. The Board of Trustees of the American Medical Association donated a second half million dollars to this fund at the recent clinical session in Los Angeles, thus providing a sizeable nest egg for the second year of the Foundation's existence.

Donations to the Foundation may be earmarked for the school of the physician's choice; they are deductible items on income tax; and they will be greatly appreciated by the medical schools of the country. Distribution of the first funds has been made and the medical schools have expressed "their enthusiastic thanks to the Trustees and Officers of the American Medical Education Foundation of the American Medical Association for their substantial support of medical education and for helping to focus national attention on the serious financial predicament of the medical schools."

Tuition fees have never covered the entire cost of a medical education. Each graduate of a medical school has received his degree because of

funds contributed by some third party which made possible the continuance of the school. The heavy tax burden has dried up the source of much of the private funds of this country and endowments no longer suffice for the financial help needed by the schools.

Again may we say that it is only right that we who have benefited from someone's generosity in obtaining our education might in all fairness reciprocate by contributing now so that other students may obtain a sound medical training. Let us all remember that in the type of society we desire—one in which the individual has freedom of speech, freedom of worship, freedom of action and freedom of choice—the privileges we enjoy carry with them certain responsibilities. Possibly one of those responsibilities may be giving financial and moral assistance to further a free, untrammelled medical education. *Have You Done Your Part?*

HIGHLIGHTS OF THE AMERICAN MEDICAL ASSOCIATION MEETING IN LOS ANGELES*

As this is written, the 1951 interim session of American Medical Association has just been concluded. Your correspondent's on-the-scene report will deal with House of Delegates action on matters of national interest. Three subjects commanded particular attention: Business relationships between hospitals and physicians; medical care for servicemen's dependents and war veterans' hospital and medical services. On the medicopolitical side, the Association was host to Senators Taft and Byrd, speaking against socialism and Truman policies, and it indorsed continuation into 1952 of its campaign against compulsory national health insurance. In connection with latter, expenditures are budgeted at \$250,000—50 per cent below 1951 outlay—and services of Whitaker & Baxter will be reduced to part-time counselling basis.

REVISED HESS REPORT MORE CONCILIATORY TO HOSPITALS

On recommendation of Board of Trustees, the House of Delegates adopted a policy statement on physician-hospital relations which supplants the controversial Hess Report. Although philosophy underlying latter is retained in this new protocol, its language has been altered so as to make *physicians alone* accountable for any deviations from the line. Threat of punitive or disciplinary action against "non-cooperating" hospitals, as set forth in previous policy, has been eliminated. Latest version of Hess Report offers following principles for guidance of individual practitioners and medical societies toward solution of local controversies over employment of doctors by hospitals:

1. A physician should not "dispose of his professional attainments or services" to any hospital

or institution under conditions whereby such services are resold.

2. If a hospital does not sell the physician's services, the financial arrangement between them may be placed on any mutually satisfactory basis. Thus, remuneration may be made for teaching or research not only by hospitals but by corporations and other lay bodies.

3. Specialties of anesthesiology, pathology, physical medicine and radiology—the ones chiefly concerned by this AMA policy—are recognized as an integral part of medical practice.

PREPAY CONTRACTS INVOLVED

An aggravating factor, says the adopted report, has been practice of including certain medical services in contracts of voluntary hospital service plans. Blue Shield and Blue Cross are urged, accordingly, to write up their contracts so that they will cover, respectively, medical and hospital care exclusively. It is recommended that every state and local medical society form a committee on hospital and professional relations to hear complaints on professional or economic relations between physicians and hospitals. Cooperation of state and local hospital associations also is urged and "state medical associations and component county medical societies could well effect liaison with these organizations in the settlement of problems involving physician relationships." Note: Conciliatory tone of new policy stems from opinions by AMA legal counsel that courts would not uphold "discipline" imposed by AMA—if showdown came—on fractious hospitals.

BLUE SHIELD APPROVED FOR DEPENDENTS' MEDICAL CARE

More significance than meets the eye is attached to AMA's action on government-paid medical services for dependents of military personnel. Text of approved resolution is as follows: "If, in the independent judgment of Department of Defense or Congress, the welfare of our preparedness program requires the dependents of members of our armed forces received medical care on a service basis, then the medical profession stands ready to provide such service through Blue Shield and other medical society-sponsored plans." This may sound innocuous but (1) it gives Blue Shield strong recognition by AMA; (2) it strengthens position of American Hospital Association which took a similar stand at recent annual meeting in St. Louis, and (3) it may conceivably serve to influence consideration which is now being given by Department of Defense and armed services to utilization of voluntary prepayment plans in providing health care for dependents (WRMS No. 233).

Above resolution was introduced by Dr. R. L. Novy, member of Michigan delegation and an active member of Blue Shield Commission, which met and discussed question of dependents' care just prior to convening of House of Delegates.

(Continued on page 30)

* As Reported by Gerald G. Gross, Editor, *Washington Report on the Medical Sciences*.

President's Page

One of the outstanding features of the recent interim meeting of the American Medical Association in Los Angeles was the selection of the general practitioner of the year. Dr. Albert C. Yoder of Goshen, Ind., was the choice although not without a spirited contest by the candidates from two other states. The final selection for this honor is made by vote of the House of Delegates from three names presented by the Board of Trustees.

Dr. Yoder, a fine old gentleman, 84 years of age, was flown out to receive the reward. He met all those qualifications which we associate with the all too rapidly disappearing family doctor. His gracious and kindly mannerisms were outstanding.

Last year we inaugurated the plan of naming a representative for Iowa to present to the national body. Our efforts were started too late for more than three counties to participate. I should like to see a larger response this year and am therefore urging the county societies to present names and substantiating data for candidate for this honor. Such a program does two things; it tends to honor those veterans of the profession who have worked unceasingly and without recognition for many years; it also augments public relations with the laity, who in this day of specialization are prone to forget those who form the bulwark of our profession—the family doctor.

May I wish you all the joys of the Holiday Season and the hope for health, happiness and prosperity in the year ahead.

A handwritten signature in dark ink, reading "Donald H. Young". The signature is stylized with a large, looped initial "D" and a long, sweeping underline that extends to the right.

President

General Manager's Page

NEW HEALTH PROGRAM FOR IOWA

At the November 1 meeting, the Council received a detailed report of the activities of Mr. Leonard C. Murray, director of Health Education for the Iowa State Department of Health. Mr. Murray joined the staff of the department five years ago to develop a health education program. At the conclusion of his talk, the Council unanimously voted to approve the objectives toward which he is working, but suggested that the individual projects be referred to the proper committee of the Iowa State Medical Society for evaluation.

This action by the Council means that the Iowa State Medical Society will cooperate with the State Department of Health in developing the many plans and projects which are the outgrowth of Mr. Murray's five years of effort in the production of a state-wide health education program.

Iowa is one of the few states in the nation which has not developed a plan for health education. In many of the states the importance of these plans is recognized by placing the whole project in a Council which maintains a director, and a special staff, even to the extent of having special office facilities. The Council, of course, has no such elaborate plans but by assuming this responsibility of cooperating with the State Department of Health, the county societies will be called upon to take added responsibility in programs involving school health, immunization, instruction of lay groups, close cooperation with city officials and departments of health in solving health problems at that level and building up a reserve list of physicians who are willing to take an active part in this most vital development. Up to the present time, your Society has arranged for speakers to attend and address many of the county and district meetings sponsored by Mr. Murray's department. Mr. Murray was also given the privilege of addressing county medical societies and to outline the work which has been done.

There is no doubt that a closer relationship between the State Department of Health and the Iowa Medical Society is much to be desired, and the Council has initiated this cooperative effort for 1952. Should you wish further information, feel free to contact this office.

PROGRAM FOR 1952

My February letter will present the 1952 program for the Speakers Bureau. At the present time the Bureau has a list of physicians who have volunteered to address lay groups on medical or health subjects. Send your request to the State Society office, attention: Dr. Robert B. Stickler, Chairman, Speakers Bureau.

KNOW YOUR SOCIETY

We are most anxious to inform the members of the county societies concerning the organization and plans of the State Society. Should you wish to have a program of this nature, the General Manager will be glad to arrange such a meeting through your Councilor. We feel that every county society in the state should know its State Society better, and will do everything possible to make this information available.

NEW PR PLANS

The new Public Relations Committee, authorized by the Executive Council, consists of Dr. Donald C. Conzett, Chairman, Dr. Ben T. Whitaker, Dr. Robert N. Larimer, Dr. Otis D. Wolfe and Dr. Fred Sternagel. In the near future, plans for the coming year will undoubtedly be ready for publication. The General Manager and Executive Secretary have recently returned from the AMA Public Relations Conference at Los Angeles, where it was apparent that public relations have become the paramount objective both in the American Medical Association and at the State level.

R. D. Bernard, m.d.

General Manager

NEWS NOTES

From The Committee On Medical Service

Editor's note: The following is part I of a report of the Fourth Annual Medical Public Relations Conference of the American Medical Association held December 2 to 3 in Los Angeles, Calif. Part II will be published in the February issue of the *Journal of the Iowa State Medical Society*.

REPORT OF THE FOURTH ANNUAL MEDICAL PUBLIC RELATIONS CONFERENCE OF THE AMA, LOS ANGELES, CALIFORNIA DECEMBER 2 TO 3, 1951

PART I

Dr. Louis H. Bauer, Hempstead, N. Y., President-elect of the American Medical Association, delivered the opening address of the Conference at a luncheon meeting held December 2. He was introduced by Dr. John Cline, President of the AMA, who urged physicians to band together to work to "restore what has been destroyed of our individual liberty."

Dr. Bauer said, "one trouble today in the United States is the lack of civic responsibility of many of our citizens. Our duties as doctors are great, but our duties as citizens are even greater. This country has been built on a spirit of competition and free enterprise. During recent years there has been a studied attempt to diminish the importance of self-reliance or the desire to improve one's lot and substitute instead a dependence on government."

"America has become a bureaucracy," Dr. Bauer continued, "ruled largely by administrative law." He urged physicians to accept their civic responsibilities and "lead the way back to freedom," enlisting the support of other organizations and individuals.

"We have a minority government because on the last national election only 47 per cent of those entitled to vote actually voted," he said. He concluded with a strong plea that physicians, as citizens, join in the fight for Americanism. Dr. Bauer's remarks highlighted the conference theme "Joining Forces for Better PR."

Following the luncheon, reports on three outstanding surveys in the field of medical care were presented. First topic was "A Psychologist Studies Medical Care," discussed by Ernest Dichter, Ph.D., New York psychological consultant, who recently completed an intensive medical care study in California. Dr. Dichter's talk concerned the emotional factors in the practice of medicine and he said, "we should not lose track of the emotional element involved in the high cost of sickness." He explained that people do not complain about the high cost of television sets because they do not

have any animosity toward TV. Everyone dislikes sickness, Dr. Dichter pointed out. He cited the importance of the psychological element in maintaining the doctor-patient relationship. In his opinion a 50 per cent reduction in medical fees would not alter the over all opinion of the public toward the medical profession, but that most important would be the effort of the medical profession to get to the bottom of the public resentment and then make fee adjustments where needed. "Without first removing the resentment of the public toward the medical profession, any alteration of fee schedules would be to no avail." He suggested that this can be accomplished through a better educated public, and advised the medical profession, individual doctors, to assume the responsibility of carrying out the program. He believes each physician should assume the responsibility of advising a patient's condition and method to be used in the treatment. "The American public is too well informed through magazine and newspaper articles, on subjects related to medicine, for the doctors to attempt to keep them in the dark." He suggests that when a physician uses a three dollar word he explain its meaning to the patient, otherwise the wrong meaning might be construed.

Dr. Dichter believes it is time the medical profession begins to take the public into its confidence. "Your patients deserve to know what is going on in most instances and it is your duty, as their personal physician, to advise them." By re-establishing the love of the patients toward the family physician the other problems will be lessened. When the patients have regained the confidence in the physicians, which they once held, you will have no great problem in establishing acceptable fees, because the public will feel that you are making every effort to be fair and just in your dealings with them.

The next panel discussant was Edgar A. Schuler, Ph.D., who reported on a survey of medical care opinion in the Toledo, Ohio, area, conducted by the Health Information Foundation of New York. Schuler is a member of the Department of Sociology at Wayne University. The major criticisms of those polled were excessive fees, unnecessary surgery, doctors not available in an emergency, charging fees in accordance with the ability of a patient to pay, lack of hospital beds. These were the criticisms embodied in the report delivered by Schuler. However, in reference to medical fees the survey indicated that only four per cent of the total questioned believed physician fees to be "too high" and 33 per cent "high." Hospital and drug costs came in for their share of criticism in this

same survey. It seems that in the minds of the public there is no separation of medical fees and that the doctors are held responsible for high hospital and drug costs. These matters were discussed at length by one of the participants who appeared on the program later during the conference.

Mr. Lawrence Rember, Field Director, AMA, Department of Public Relations, gave a report of a survey conducted at the request of the Macon County Medical Society, Decatur, Ill. Mr. Rember's report was primarily statistical and some of the figures follow: Number of families questioned: Urban—264; Rural—36.

Areas investigated: Families that have a family physician.

Visits to a physician in a period of one year.

Persons who utilized services of a specialist.

Persons who saw a specialist of own accord or who were referred by a G.P.

Number who have a physician who will make house calls, day or night.

Number who have a physician who will attempt to come when ever called.

Opinions on costs of hospital care, drugs, surgery.

Number of persons who have ever been hospitalized.

Quality of medical care—surgical care.

Quality of hospital care—nursing care.

1. 91% had a family physician.

2. 89% had occasion to see a doctor at least once in past year.

3. 75% had used the services of a specialist.

4. 39% referred by a general practitioner.

5. 61% own choice, or recommended by some other lay individual.

6. 88% had a physician who would make a house call day or night.

7. 63% respond to a home call as soon as humanly possible.

8. 43% hospital costs too high.

9. 44% drug costs too high.

10. 29% surgical costs too high.

11. 1 out of 14 never been hospitalized.

Quality of medical-surgical care—High.

Quality of hospital care—Low (or poor).

Quality of nursing care—Low (or poor).

Mr. Rember's survey indicates that only a small per cent of the people in Decatur and Macon County have an adverse opinion of the practice of medicine, but as he pointed in his discussion, "it is this small minority which makes the most noise and those who are pleased with the care say practically nothing." Therefore it behooves the doctors of Macon County and Decatur to direct their activities toward this minority, using the results of this survey as the basis for the development of a program of public relations in this county. This report appeared in the December 1 issue of the *Journal of the American Medical Association*.

EDITORIAL

(Continued from page 26)

SPECIAL COMMITTEE ORDER TO STUDY VETERAN PROBLEMS

For several years AMA has been trying to do something about manifold problems dealing with medical and hospital care of war veterans. Perhaps the most controversial is the matter of government responsibility for non-service-connected cases—whether they should continue to be eligible for beds in veterans hospitals and, if not, how they might be cared for under private auspices. Again at this Los Angeles meeting, the so-called Shoulders Plan was introduced, providing that Washington contract and pay for memberships in voluntary health service plans to cover veterans with non-service-connected disabilities who were unable to pay for medical care. It was debated with spirit at reference committee hearings presided over by Dr. R. B. Robins, of Arkansas. Among participants in discussions were Vice Admiral Joel T. Boone, chief medical director of Veterans Administration, and one of his chief assistants, Dr. E. H. Cushing. Also, the plan's sponsor, Dr. Harrison H. Shoulder, of Tennessee, a former president of AMA.

House of Delegates passed Robins committee recommendation that the board of trustees appoint a special committee to study Shoulders Plan and other ramifications of veterans' care. A noteworthy angle is that proposed committee is directed to consult with hospital, insurance, veterans and other interested organizations in arriving at its conclusions.

LEGION SUPPORT AT STAKE

What action AMA eventually may take in this field has no little political implication. At this Los Angeles session, American Legion sent its national commander, Donald R. Wilson, to present personally a strong pledge of support "in your battle to overcome the encroaching forces of socialized medicine." In recent months, this happy union has been somewhat embarrassed, if not brokenup, by Legion's militant drive for Federal aid to medical schools while AMA has been active contrarywise. "You may depend on us to carry our full share of what is primarily your battle," said Wilson, referring to the "socialized medicine" fight. As a favor in return, he hinted that Legion would welcome AMA assistance in former's campaign to prevent merger of all Federal medical and hospital activities, including VA's. This issue—as the AMA trustees' special committee, if and when appointed, will discover—is inextricably linked with problem of non-service care. Two out of three VA hospital beds are used for this type of patient and preservation of status quo is a *must* in high councils of American Legion. AMA will have to tread gingerly not to rock the boat.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. HOWARD W. SMITH, Woodward

President-Elect—MRS. J. DONALD HENNESSY, 205 Frank St., Council Bluffs

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

STATE PRESIDENTS' CONFERENCE

The Eighth Annual Conference of State Presidents, Presidents-Elect and National Committee Chairmen of the Woman's Auxiliary was held November 14 to 15 in Chicago. Your President, Mrs. Howard W. Smith, Mrs. Claire H. Mitchell, Committee member of the National Public Relations Committee and Mrs. Lonnie A. Coffin attended the meetings.

Full reports of the Conference will be published in the next issue of the *National Bulletin*. County and state officers will find the *Bulletin* a valuable and interesting magazine to assist them in their Auxiliary work. It is a necessary link between the individual Auxiliary member and the National Auxiliary.

From the following high points of the meetings I hope to share with you a part of the conference:

Dr. Ernest B. Howard, Assistant Secretary of the AMA, told us about the work of the organization. A new handbook is being written which will explain the work of the AMA and how the doctors' dues are being spent. Fifty per cent of its activities are truly scientific. The AMA has carried on an intensive educational campaign during the past few years. *Today's Health* magazine is one of its many projects. *Today's Health* is not making a better record. The magazine is one of the best ways to present authentic health information to the public, and Auxiliary members are needed to sell it to the medical profession and the public. There is a big improvement in the field of public relations. Many leading writers have come to the AMA for assistance.

Mrs. George Turner, National Auxiliary Treasurer, emphasized that, "It is better to spend money wisely than to save it." This applies to our county and state auxiliaries as well. The dead line for National dues is March 31, 1952.

We learned from the panel programs that doctors' wives everywhere are busy in various activities on the local level-community service, civil defense, especially in target areas, student nurse recruitment and many others. In all states, doctors' wives are cooperating with, and working in the various health organizations. They are assuming citizen responsibilities. In one western state, auxiliary members worked with the schools to

promote "Healthy Living in Our State." There was good cooperation from schools and radio stations.

In a county in an eastern state the entire Auxiliary membership took First Aid courses, then they taught lay people. We assume responsibility the day we become a doctor's wife. Community service touches all community life.

Mr. Edward H. O'Conner, Managing Director, Insurance Economic Society of America, said, "*Between the great things we cannot do and the small things we do not do, we do nothing.* We take our freedom for granted. A whole generation has been taught that the world owes them a living. It is time to raise a warning signal. Through our own free enterprise Americans create their own social security. The freedom that we enjoy is not a permanent possession. It has a price tag. It requires eternal vigilance. This country was built by men of courage and self reliance. Be the kind of people that made America great. We hold our destiny in our hands."

Honorable Walter Judd, M.D., Congressman of the United States, gave us a history of the political changes in the United States. "Politics is going through a transition. Doctors are babes in arms when concerned with government and today's problems. We must take care of our political relations. We have a dual role—a citizen and a doctor's wife. We can help the public by assuming our responsibilities as a citizen. Only a very rich country can afford socialized medicine. Most of man's problems should be settled by many, not a few people. We have to become political scientists. *There is no one wise enough or good enough to rule others.* We can not do things for people—they must do it themselves. Hold down the powers of government. The legislative branch is against the government. Wars only determine who is going to plan the peace."

Judd's talk clearly showed us that we all must know what is going on. We must all work at ideas. "Ideas are so important. There are two things to be afraid of: 1. Do not underestimate the Kremlin and 2. Do not underestimate ourselves.

The rights of the individual comes out of a religious faith, the belief in God. This is what is unique, *The secret of all our progress is Faith and a Belief in God.*

Study—share ideas and fertilize them in the soil of discussion. We work for the Red Cross, etc.—why won't we work in politics? Be willing to be candidates ourselves. If we don't like him (the candidate)—run for the office!

My closing message to each of you as we begin a new year is stated in the theme of the Conference "Working Together for Health." Let this be our resolution for 1952.

MRS. HOWARD W. SMITH, *President*

TODAY'S HEALTH CONTEST

January 31, 1952 will see the National *Today's Health* Contest end.

I hope all members in Iowa county auxiliaries have put forth every effort to bring in subscriptions to *Today's Health*. It is my sincere wish that many Iowa counties will appear in the list of winners. Our Iowa counties were not very successful in attaining this goal last year.

If your county's subscriptions have already been forwarded, additional subscriptions and checks should be sent to Mrs. Richardson E. Clark, 820 N. Franklin St., Manchester, and your auxiliary will receive credit.

MRS. HOWARD W. SMITH, *President*

PUBLICATION PONDERINGS

We now have an exchange service of state Auxiliary publications with 11 states. In studying these various releases, it is interesting to note that a similarity of projects and problems seems to exist in most areas. States with large memberships have special professional publications; namely, Pennsylvania, California and Ohio.

The Illinois Auxiliary hopes to make its *News* self-supporting eventually by securing commercial advertising. Michigan, like Iowa, is embarrassed that sales of *Today's Health* have been "disappointing" and also that there are only 162 subscriptions to *The Bulletin* out of a membership of 2,370. West Virginia recommends giving subscriptions of *Today's Health* to penal institutions.

Florida has recently diverted a medical aid loan fund to student nurses loans. Missouri has provided from its loan fund \$600 apiece to junior medical students, one of whom is at Washington University, St. Louis and the other at Pittsburgh School of Medicine.

South Carolina is sponsoring an essay contest on the topic "Why Private Practice of Medicine Furnishes This Country With the Finest Medical Care." Missouri is sponsoring an essay contest on the subject "Growth of Voluntary Health Insurance in America."

"Getting out a newspaper is no picnic.

"If we print jokes, people say we are silly. If we don't, they say we are too serious. If we clip things from other publications, we are too lazy

to write them ourselves. If we don't, we are too fond of our own stuff.

"If we don't print contributions, we don't appreciate true genius. If we do print them, the page is filled with junk.

"Now, like as not, someone will see we swiped this from some magazine.

"We did!"

—Reprinted, *The Journal of the American Medical Association*.

"Do every assignment given you better than it needs to be done. There is no substitute for hard work. The more you give of yourself, the more you will have to give. That sounds old-fashioned, but it has built our democracy. Lack of interest and selfishness are synonymous with defeat." —Fred W. Dixon, M.D., President Ohio State Medical Association.

MRS. KEITH M. CHAPLER

ACTIVITIES OF COUNTY AUXILIARIES

The Wapello County Auxiliary met at the home of the President, Mrs. Edward B. Hoeven on December 4 in Ottumwa. Mrs. Hoeven gave a brief resume of the year's activities as follows: the Auxiliary contributed to the Community Chest; sent 40 pounds of children's clothing to Korea; gave text books, uniforms and a nurses' cape to a needy student nurse; contributed to the state loan fund for nurses; gave \$500.00 to furnish a room for the new Ottumwa Hospital; held a picnic for the doctors and families and sponsored an inter-professional dinner for physicians and members of all allied groups—doctors, dentists, nurses, pharmacists and veterinarians.

A survey of all service groups in the county is in progress and will be completed soon after the first of the year. Any group or organization which contributes in any way to the health and welfare of the needy is included. A report of the survey will be published in the local paper and copies will be made available to all interested groups. Such information is of vital importance to the needy and to those who give of their time and money. It is hoped that this survey will clear up confusion and prevent overlapping of aid as well as inform the public about the profusion of aid which is available to anyone in need.

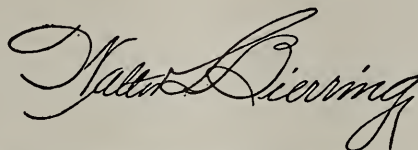
Through 1951 the Wapello County Auxiliary kept up the study of current legislation, seeking, through education, to combat advancing Socialism in this country.

The following Auxiliary officers were elected for 1952: President, Mrs. Philip D. McIntosh; Vice-President, Mrs. William D. Maixner; Secretary, Mrs. Harold A. Spilman and Treasurer, Mrs. Charles R. Phelps, all of Ottumwa.

MRS. EDWARD B. HOEVEN,

Past President, Wapello County Auxiliary

STATE DEPARTMENT OF HEALTH



ENGINEERING DIVISION RELEASES TIMELY SUGGESTIONS TO SEWAGE TREATMENT PLANT OPERATORS AND CITY OFFICIALS

Another year has hastily faded away and it is again time to remember that sewage treatment facilities need preparation for winter the same as an automobile. Ice coverage of receiving streams may offset the advantages of higher quantities of dissolved oxygen in the water due to the lower temperatures. Do not let the streams become "covered sewers" due to insufficient operation of existing sewage treatment facilities or failure of treatment processes due to the lack of "winterizing" well in advance of sustained cold weather.

The closing year has also allowed another 12 months for planning and constructing treatment facilities where existing plants are inadequate or none exist. The clean up of the Iowa streams requires active cooperation of all contributors to the pollutional load.

Sewage treatment is a 24 hour a day business with no time out for seasonal relaxation. A few of the items to be considered in connection with winter preparations are reprinted as reminders:

1. Clean and mound sand filters 12 to 14 inches high on approximately eight foot centers or ridge the sand to approximately the same height in such a way that complete coverage of the bed by the settled sewage will occur.
2. Service all mechanical equipment and repair if necessary.
3. Clean and repair siphons and siphon chambers.
4. Check and clean heating equipment, including auxiliary equipment.
5. Check sludge removal and recirculation pumps.
6. Thoroughly clean and repair all distribution equipment on filters. Check mercury seals and oil in rotary distributors.
7. Provide windbreaks on at least the north and west sides of periphery of trickling rock filters if necessary.
8. Draw sludge to allow sufficient sludge storage for solids accumulation through the severe months.
9. Remove dried sludge from sludge beds for early spring drawing.
10. Protect all valves from freezing.

11. Remove sludge from final clarifiers not equipped with sludge removal equipment.

12. Make provisions for operator to spend sufficient time at the plant for maximum efficiency.

The discharge of improperly treated sewage to the waters of the State cannot, and should not, be permitted. The public health and natural resources are of vital interest to every individual. Be sure your plant is ready so it will operate all winter.

FLUORIDATION OF PUBLIC WATER SUPPLIES

The subject of fluoridation of public water supplies in Iowa for the reduction of dental decay in children's teeth has received state-wide publicity with the completion of the installations at Waukon and Dubuque last month. This publicity has stimulated many questions about the fluoridation of water supplies among lay people. In the interests of creating a better understanding of the subject, the following nontechnical discussion has been prepared:

Fluoridation of the water supply refers to the application of a fluoride compound in trace amounts to the public water supply as it is pumped for distribution. The purpose is the partial control of dental decay. A substantial reduction appears possible in children if fluoride-treated water is used for birth through the first eight years of life. This benefit once obtained is thought to continue for life; however, it should be pointed out that fluoridation does not treat or reduce decay already existing in teeth. It is simply a means of supplementing the fluoride intake of the diet to the optimum amount.

Experimental programs commenced in 1945 and 1946 at Grand Rapids, Mich.; Newberg, N. Y.; Branford, Ont. and Sheboygan, Wis., show much promise in the reduction of tooth decay to date. It is on the basis of these results that the Iowa State Board of Health, meeting in regular session on July 10, 1950, adopted the following policy: "After careful consideration of the practicability of adding fluoride to a public water supply, and if there is sufficient local demand as evidenced by approval of the local health authorities, the local dental and medical professions, and the local water works officials, the State Department of Health will assist in setting up the necessary

control measures to assure that the concentration of fluoride ion in the finished water is within the recommended limits at all times." Many water supplies in Iowa contain optimum amounts of fluoride in the natural state and need no additional treatment. Many others contain amounts less than the optimum which need only to be augmented to bring the content up to the optimum. Still other supplies contain too much fluoride and mottled enamel results. Information concerning the natural fluoride content of public water supplies may be obtained from the State Department of Health.

WHY GRADE A MILK

Just what is Grade A milk? It is milk first of all, from healthy cows. It must come from dairy farms properly equipped to produce a high quality milk. This includes a well constructed milk house with adequate hot water, wash and rinse vats, cooling facilities and storage space for all utensils and equipment. The Grand A barn must be whitewashed or painted, must be kept clean and have sufficient lighting and ventilation. The farm wells and toilets must be properly located and constructed. The Grade A dairy plant must be constructed and equipped to handle the milk in such a manner as to eliminate all chances of contamination when the processing is properly conducted. Grade A milk must be transported at all times in clean, covered vehicles. It should be kept at a temperature of 50° F. or lower at all times. Finally, the bacterial content of the milk must meet the standards set forth in the Standard Grade A ordinance. In other words Grade A milk is milk that has been produced, processed and transported under conditions found to be the most nearly perfect from a public health standpoint. In this discussion all references to Grade A milk pertains to Grade A pasteurized milk.

The standards set up for Grade A milk are not some dreamed up by a group of public health officials but are the result of cooperative thinking of some of the best minds in all branches of the dairy industry as well as public health workers. It should be pointed out that the mere sight of a Grade A label does not always mean that the milk is necessarily of the fine, high quality that the Standard Grade A Ordinance requires. You must satisfy yourself that this milk bearing the Grade A label is being checked and analyzed by competent sanitarians as the Standard Grade A Ordinance specifically states that it should be.

What does Grade A milk mean to the consumer? When the consumer once satisfies himself that the Grade A label is being properly enforced, he can drink this milk with the utmost confidence that he is drinking a safe product known as nature's most perfect food.

What does Grade A milk mean to the dairy industry? In the past, this great State of ours has been importing Grade A milk because of insuf-

ficient quantities of it in our own State. Great quantities are being imported at this time because we are in the middle of our low production period. This should never happen in a state such as Iowa where ample food for dairy cattle is grown. This Department has had request after request from other states for some Grade A milk. In practically all instances in recent months we have had to report that there was no Grade A milk available for shipment into other states. There is a tremendous potential market for Grade A milk in most of the southern states. Our neighboring dairy states are reaping much of this "gravity." Certainly Iowa should take advantage of this market. If the trend continues Iowa will become a shipping state for Grade A milk, as it should be.

Again, the dairy industry should demand the Standard Grade A ordinance and make certain it is properly enforced. If it is not, the importing states will look elsewhere for their Grade A milk.

Definitely, Iowa is moving in the right direction. In the future, we should be one of the leading states in the production of Grade A milk.

MORBIDITY REPORT

| Diseases | Nov. 1951 | Oct. 1951 | Nov. 1950 | Most cases reported from: |
|-------------------|--------------|--------------|--------------|---|
| Diphtheria | 2 | 1 | 2 | Fayette and Cerro Gordo |
| Scarlet Fever | 60 | 29 | 30 | Black Hawk, Fayette, Polk |
| Typhoid Fever | 4 | 1 | 0 | Lee, Muscatine, Poweshiek, Warren |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 7 | 14 | 17 | Scattered, 1 to a county |
| Whooping cough | 17 | 18 | 101 | Black Hawk, Clinton, Des Moines |
| Brucellosis | 20 | 41 | 8 | Cerro Gordo, Floyd, Jasper |
| Chickenpox | 155 | 65 | 103 | Black Hawk, Boone, Sac, Story |
| Influenza | 0 | 0 | 0 | ..... |
| Meningitis men. | 7 | 8 | 1 | Black Hawk 2, others scattered 1 to a county |
| Mumps | 122 | 55 | 59 | Clinton, Des Moines, Woodbury |
| Pneumonia | 1 | 6 | 7 | Polk |
| Poliomyelitis | 25 | 41 | 109 | Boone 2, Ida 2, Polk 3, others 1 to a county |
| Rabies in Animals | 10 | 19 | 13 | Guthrie, Pocahontas, Polk, 2 each, others scattered |
| Tuberculosis | 64 | 52 | 66 | For the State |
| Gonorrhea | 53 | 42 | 56 | For the State |
| Syphilis | 131 | 141 | 138 | For the State |

SPEAKER'S BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a.m.
GOLD MEDAL MEN

January 3.....Henry A. Christion
January 10.....Isaac Arthur Abt
January 17.....Seele Harris
January 24.....Evarets A. Graham

WSUI—Tuesdays at 11:45 a.m.
THE DRUGS YOU USE

January 1.....Safeguarding New Drugs
January 8.....Quackery
January 15..Your Prescription and Your Druggist
January 22.....A Look to the Future

Iowa Academy of General Practice

President—Cecil V. Hamilton, M.D., 145 E. 4th St., Garner

President-Elect—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

Vice President—Ivan T. Schultz, M.D., 106 N. Taft St., Humbolt

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

POST-GRADUATE MEETING

Hotel Savery, Des Moines

Thursday, January 24, 1952

GENERAL TOPIC: "GERIATRICS"

Program

9:00 a.m. "The Care of the Older Patient."

- (1) General Considerations.
- (2) Infectious Diseases.
- (3) Disorders of the Special Systems.

Wingate M. Johnson, M.D., Professor
of Clinical Medicine, Bowman-Gray
School of Medicine of Wake Forest
College, Winston-Salem, N. C.

10:30 a.m. "The Little Strokes."

Walter C. Alvarez, M.D., Emeritus
Professor of Clinical Medicine, Uni-
versity of Minnesota Graduate
School of Medicine, Minneapolis,
Minn.

12:15 p.m. Luncheon—Speaker to be announced.

2:00 p.m. "Adjustments to Age."

- (1) Physical
- (2) Psychological
 - a. From the standpoint of society
 - b. From the standpoint of the family
 - c. From the standpoint of the individual

Dr. Johnson.

3:30 p.m. "The Care of the Dying."

Dr. Alvarez.

Opportunities will be given for questions.

THE JANUARY 24 MEETING

We venture to say that no where else within many hundreds of miles will you be able to find such a comprehensive discussion of the subject of geriatrics presented by such eminent authorities. We are sure that *all* doctors will profit immeasurably by being present at this meeting and we urge everyone to attend. Facilities are ample and membership in the Academy of General Practice is *not* required. The speakers are outstanding and the subject is embraced in nearly every specialty.

As the *Journal* goes to press, we are unable to announce the speaker for the luncheon, but we assure you that we will present a subject that will be of deep interest to you. Plan to attend. No special invitation is needed beyond this announcement.

PRECEPTORSHIPS

Many readers of the *Journal* have undoubtedly seen in your newspapers that the Board of Education of our State has approved of preceptorships for the senior medical students of our State University Medical School. This has been effected by the combined efforts of the Iowa Academy of General Practice, the Committee on General Practice of the Iowa Medical Society and, of course, the faculty of the Medical School. The purpose of these preceptorships is to show the medical students, at first hand, the active general practitioner in his own environment, thereby teaching the student what makes up the work, the type of living, and even the economic problems of the practitioner. This adds to training some knowledge of office practice and of the art of handling private patients, which has been obviously impossible heretofore. We hope thereby that more students will adopt general practice for their life's work through the actual knowledge of what it is.

The modus operandi of this program is not yet ready for announcement, but many general practitioners of the state will be called upon to take part. Watch for the particulars soon, and help in the training of these students and in increasing the number of our general practitioners. Let us put Iowa medical training for general practice out in front.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

ANTIBIOTIC THERAPY, by *Henry Welch*, Ph.D., Director, Division of Antibiotics, Food and Drug Administration, Federal Security Agency of the United States Government; *Charles N. Lewis*, M.D., Medical Officer, Division of Antibiotics, Federal Security Agency of the United States Government; and *Chester S. Keefer*, M.D., Wade Professor of Medicine, Boston University School of Medicine, Chairman, Committee of Medicine and Chairman, Committee on Chemotherapy of the National Research Council. The Arundel Press, Inc., Washington, D. C., 1951. Price \$10.00.

BACKACHE, Birth and Figure Relief by Self-Revolving Hipbones, by *William Schoenau*. Published by the author, Los Angeles, Calif., 1951. Price \$2.00.

MEASUREMENT AND EVALUATION IN PHYSICAL, HEALTH AND RECREATION EDUCATION, by *Leonard A. Larson*, B.A., B.P.E., M.Ed., Ph.D., Professor of Education, New York University and *Rachael Dunaven Yocom*, B.A., M.A., Ph.D., Instructor in Education, New York University. C. V. Mosby Co., St. Louis, Mo., 1951. Price \$7.50.

PATHOLOGY OF THE FETUS AND THE NEWBORN, by *Edith L. Potter*, M.D., Ph.D., Associate Professor of Pathology, Department of Obstetrics and Gynecology, the University of Chicago; Pathologist, The Chicago Lying-in Hospital; Chief Pathologist, the Chicago Department of Health. The Year Book Publishers, Inc., Chicago, Ill., 1952. Price \$19.00.

TEXTBOOK OF REFRACTION, by *Edwin Forbes Tait*, M.D., Ph.D., Associate Professor of Ophthalmology, Temple University School of Medicine; Attending Surgeon, Temple University and Montgomery Hospitals. W. B. Saunders Co., Philadelphia, Pa., 1951. Price \$8.00.

THE 1951 YEAR BOOK OF DRUG THERAPY (September, 1950-August, 1951), edited by *Harry Beckman*, M.D., Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General and Columbia Hospitals, Milwaukee, Wisc. The Year Book Publishers, Inc., Chicago, 1951. Price \$5.00.

THE 1951 YEARBOOK OF GENERAL SURGERY (July, 1950-May, 1951), edited by *Evarts A. Graham*, M.D., Professor of Surgery, Washington University School of Medicine. The Year Book Publishers, Chicago, 1951. Price \$5.00.

BOOK REVIEWS

METABOLIC METHODS, Clinical Procedures in the Study of Metabolic Functions, by *C. Frank Consolazio*, *Robert E. Johnson*, M.D. and *Evelyn Marek*, M.A. (C. V. Mosby Co., St. Louis, Mo., \$6.75).

As its preface states, this book details methods that have proved of value in the authors' own laboratories where, they state, three different types of research work have posed methodological problems: first, metabolic balance studies; second, routine laboratory analysis of tissues, food and body fluids and third, studies out in the field.

Therefore, after discussion of problems in collection and storage of specimens and instrumentation, sec-

tions are devoted to biochemical procedures, microbiological procedures, physiologic measurements, studies in the field, technics for metabolic wards and clinical laboratory procedures. Considerable reference material is included.

For the physician, particularly the director of a clinical laboratory, the section on clinical laboratory methods is inadequate, but there is contained within the covers of this book other reference material and information not otherwise readily available to him. —*R. F. Birge, M.D.*

THE CHANGING YEARS, What to Do About Menopause, by *Madeline Gray* (Doubleday and Company, Inc., Garden City, N. Y., \$2.75).

This small volume is written, apparently, for the 25 per cent of women who have real and imaginary trouble during the "changing years" of life.

There is so much mis-information that pervades the laity among women that this book should prove of untold value to many. It should be most helpful in correcting misconceptions and fears and in meeting some of the problems that arise during the climacteric. In my opinion, many physicians will also be enlightened by reading the book. —*C. B. Luginbuhl, M.D.*

TECHNICAL METHODS FOR THE TECHNICIAN, Fourth Edition, by *Anson L. Brown*, M.D. (Published by the author, Columbus, Ohio, \$10.00).

As its title implies, this book is intended for the technician, particularly for the novice technician or student who enters a commercial school without adequate college background. It contains a number of valuable suggestions, especially intended for the beginner but worthy of consideration by any technologist, concerning such matters as conduct in the laboratory. In the main, it consists of outlines of procedures.

Inasmuch as a number of authoritative textbooks on clinical pathology are available, it is probably preferable for student technologists in approved schools to utilize such standard textbooks in conjunction with outlines furnished them by pathologists under whom they are studying. —*R. F. Birge, M.D.*

PHILOSOPHY FOR THE COMMON MAN, by *Heinrich F. Wolf* (Philosophical Library, New York, \$3.50).

This volume represents an attempt by the author to answer a number of problems which confront every thinking person. He presents a philosophical approach to problems of life, death, purpose of life, religion, free will and riddles of science. Any physicians interested in philosophy will find this presentation most interesting to follow. —*E. M. George, M.D.*

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

Dr. Alson E. Braley, Head of the SUI College of Medicine Department of Ophthalmology, spoke on "Glaucoma" at the regular meeting of the Black Hawk County Medical Society November 10 at the Elks Club in Waterloo.

Clayton

The Clayton County Medical Society elected the following officers for 1952 at its December 7 meeting in Elkader: President, Dr. Theodore W. Lichter, Edgewood; Vice-President, Dr. Enoch G. Kettelkamp, Monona and Secretary-Treasurer, Dr. Adrian B. Powell, Elkader.

Dubuque

The November meeting of the Dubuque County Medical Society was held November 13 at the Dubuque Shooting Club. Dr. Rubin H. Flocks, Chief of Urology of the SUI College of Medicine, spoke on "Carcinoma of the Prostate."

Marshall

Dr. Byron M. Biersborn, State Center, was recently elected President of the Marshall County Medical Society for the coming year. Other new officers include: Vice-President, Dr. Edson C. Knight and Secretary-Treasurer, Dr. Harold E. Sauer, both of Marshalltown.

Polk

Dr. Charles F. McKhann, Cleveland, Ohio, spoke on "The Handicapped Child" at the regular meeting of the Polk County Medical Society, November 14 at the Hotel Savery in Des Moines.

Southwestern Iowa

The regular meeting of the Southwestern Iowa Medical Society was held November 14 at the Chicken Inn in Creston. Dr. John H. Randall of the SUI College of Medicine, Department of Obstetrics, spoke on "Bleeding Emergencies in Obstetrical Patients."

Warren

Dr. George A. Jardine, New Virginia, was elected President of the Warren County Medical Society at the Society's meeting November 26 in Indianola. Dr. Donald M. Hickman, Indianola, was elected the Secretary-Treasurer.

Webster

Dr. Thomas T. Myers, Rochester, Minn., spoke on "Varicose Veins" at the November 30 meeting of the Webster County Medical Society at the Hotel Warren in Fort Dodge.

Washington

The Washington County Medical Society held its regular meeting November 29 in Washington. The program consisted of a film entitled, "An Improved Technic for the Operative Treatment of Common Anorectal Lesions," furnished by the William S. Merrell Company.

Woodbury

The November meeting of the Woodbury County Medical Society was held November 13 at the Mayfair Hotel in Sioux City. Dr. Donald Nichols, Consultant in Medicine at the Mayo Clinic in Rochester, Minn., spoke on "Current Trends in Antibiotic Therapy."

PERSONALS

Dr. Edmund T. Burke, formerly of the Veterans Administration Hospital, Des Moines, has become associated with **Dr. Gerald V. Caughlan** in Council Bluffs. Dr. Burke was graduated from the SUI College of Medicine in 1944.

Dr. John E. Hartsaw, formerly of Sigourney has begun the practice of medicine in Fullerton, Nebr.

Dr. Earl D. Lovett, Vinton surgeon and general practitioner, and founder of the Lovett clinic, recently sold his interests in the clinic to his associates, **Drs. John E. Blumgren** and **Gerald A. Fry**. Dr. Lovett will locate in California.

Dr. John C. Lyons has begun the practice of medicine at the West Davenport Clinic in Davenport. He specializes in urological surgery. A 1945 graduate of the University of Illinois College of Medicine, Dr. Lyons served his internship at the Los Angeles County General Hospital.

Dr. Paul T. Meyers, formerly of Kinston, N. C., radiologist, has joined the staff of the Gilfillan Clinic at Bloomfield. Born in Mason City, Dr. Meyers was graduated from the SUI College of Medicine in 1930.

Directors of the Mississippi Valley Medical Society elected officers for 1952 at their recent annual meeting in Quincy, Ill. Iowa physicians holding offices in the Society include: President, **Dr. John I. Marker**, Davenport, and Third Vice-President **Dr. Arthur F. Fritchen**, Decorah.

The Grundy County Medical Society honored **Dr. Robert T. Spain**, Conrad, and **Dr. William O. McDowell**, Grundy Center, at a dinner in Grundy Center November 16. Both doctors have completed more than 50 years of medical service.

Dr. Albert A. Schultz, Fort Dodge physician, has retired from the practice of medicine after nearly 40 years in the profession. He has moved to Des Moines, where he has become associated with his son in the production of educational and industrial films.

Dr. William Tice, New Orleans, La., has been named medical director of the Black Hawk County Mental Health Center. A 1941 graduate of the SUI College of Medicine, Dr. Tice served his internship at the Ancker Hospital in St. Paul, Minn.

DEATH NOTICES

Dr. William Richard Arthur, 73, retired Hampton physician, died November 27 following a long illness. A 1907 graduate of the State University of Iowa College of Medicine, Dr. Arthur practiced medicine in Hampton for more than 39 years. He was a member of the Franklin County and Iowa State Medical Societies.

Dr. Frank Earl Bellinger, 77 Council Bluffs physician for more than 50 years, died November 22 of pneumonia and leukemia. Dr. Bellinger was graduated from the Creighton University School of Medicine, Omaha, in 1900 and at the time of his death was a life member of the Pottawattamie County and Iowa State Medical Societies.

Dr. Jennings Crawford, 68, Cedar Rapids urologist for more than 40 years, died November 29 following a coronary attack. Born in Cedar Rapids, Dr. Crawford was graduated from Johns Hopkins University School of Medicine, Baltimore, in 1909. Dr. Crawford was a member of the Linn County and Iowa State Medical Societies at the time of his death.

Dr. Warren Zachary Earl, 67, retired Sioux City physician, died November 22 at his home in Los

Angeles, Calif. He was a graduate of the University of Illinois College of Medicine, Chicago, in 1913. Dr. Earl was formerly a member of the Woodbury County and Iowa State Medical Societies.

Dr. Robert Anderson Gamble, 72, Madrid physician for 33 years, died November 22 following a short illness. Born near Winterset he was graduated from the Physicians and Surgeons College, St. Louis, Mo., in 1907. At the time of his death, Dr. Gamble was a member of the Boone County and Iowa State Medical Societies.

Dr. Emil Carl Junger, 77 Soldier physician for nearly 50 years, died November 24 at a Sioux City hospital following a stroke. Born near Winterset, Dr. Junger was graduated from the Sioux City College of Medicine in 1902. Dr. Junger was a member of the Monona County and Iowa State Medical Societies.

Dr. Bernard H. Luehrsmann, 77, Dyersville, physician for more than 50 years, died November 28. Born in Dyersville, Dr. Luehrsmann was graduated from the University of Illinois College of Medicine, Chicago, Ill., in 1900. At the time of his death, Dr. Luehrsmann was a member of the Dubuque County and Iowa State Medical Societies.

Dr. Hugh Bechtel Woods, 74, Des Moines physician for 47 years, died November 17 following an illness of several months. Born at Mitchellville, Dr. Woods was graduated from the Drake University College of Medicine in 1903. He was a member of the Polk County and Iowa State Medical Societies.

Dr. Frank L. Siberts, 72, Hampton physician, died December 7 following a heart attack. Graduated from the State University of Iowa College of Medicine in 1904, Dr. Siberts practiced medicine in Geneva until 1941 when he moved to Hampton. Dr. Siberts was a member of the Franklin County and Iowa State Medical Societies at the time of his death.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of December 15, 1951

| | |
|--|------------------------------|
| Ackerman, J. H., Clarksville (Melbourne, Fla.) |Asst. Surg., U.S.P.H.S. |
| Alberts, M. E., Des Moines (Des Moines) |Lt., U.S.N.R. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) |Major, A.U.S. |
| Bartholomew, R. D., Lake City (Oakland, Calif.) |Lt. (j.g.), U.S.N.R. |

Bartley, R. L., Sully
 (FPO San Francisco, Calif.)Lt., U.S.N.R.
 Benge, D. K., Dows
 (Ft. Leonard Wood, Mo.)1st Lt., U.S.A.
 Braatlien, N. T., Des Moines
 (Camp Carson, Colo.)1st Lt., U.S.A.F.
 Brown, R. C., Mason City
 (Kansas City, Kan.)1st Lt., A.U.S.
 Camp, J. R., Thompson
 (San Diego, Calif.)Lt. (j.g.), U.S.N.R.
 Carroll, T. J., Sibley
 (APO San Francisco, Calif.)1st Lt., U.S.A.F.
 Carson, R. W., Winterset
 (APO San Francisco, Calif.)1st Lt., A.U.S.
 Coyne, K. M., Burlington
 (FPO San Francisco, Calif.)Cmdr., U.S.N.R.
 Dalager, R. D., Ottumwa
 (Annapolis, Md.)U.S.N.R.
 Davidson, M. C.
 (APO New York, N. Y.)Lt. Col., A.U.S.
 Davis, S. K., Des Moines
 (Seattle, Wash.)
 Donahus, J. F., Fort Dodge
 (San Antonio, Texas)U.S.A.F.
 Fitch, R. E., Des Moines
 (Bangor, Me.)1st Lt., U.S.A.F.
 From, Paul, West Des Moines
 (San Antonio, Texas)1st Lt., U.S.A.F.
 Gladstone, W. S., Jr., Iowa City
 (Crestview, Fla.)U.S.A.F.
 Goenne, W. C., Jr., Davenport
 (Tacoma, Wash.)Major, A.U.S.
 Greco, D. J., Des Moines
 (APO San Francisco, Calif.)Lt., A.U.S.
 Gustafson, J. E., Des Moines
 (Camp Roberts, Calif.)1st Lt., A.U.S.
 Jensen, K. V., Newton
 (San Antonio, Texas)1st Lt., U.S.A.F.
 Johnson, A. A., Jr., Council Bluffs
 (Fort Worth, Texas)1st Lt., U.S.A.F.
 Johnson, F. N., Madrid
 (San Antonio, Texas)1st Lt., U.S.A.F.
 Johnson, M. H., Iowa City
 (Tacoma, Wash.)Capt., A.U.S.
 Keil, P. G., Des Moines
 (Bangor, Me.)Major, U.S.A.F.
 King, R. E., Des Moines
 (APO San Francisco, Calif.)Capt. A.U.S.
 Krause, R. E., Ottumwa
 (Camp Atterbury, Ind.)1st Lt., A.U.S.
 Kruse, R. H., Conrad
 (Pearl Harbor, T. H.)Lt., U.S.N.R.
 Kurth, R. J., Waterloo
 (Panama City, Fla.)Capt., U.S.A.F.
 Landis, S. N., Des Moines
 (Topeka, Kan.)Major, U.S.A.F.
 Leiter, E. R. K., Des Moines
 (Bangor, Me.)Capt., U.S.A.F.
 McCrary, W. A., Lake City
 (APO San Francisco, Calif.)Capt., A.U.S.
 Mangan, J. T., Forest City
 (FPO San Francisco, Calif.)Lt. (j.g.), U.S.N.R.
 Merkel, B. M., Des Moines
 (Bangor, Me.)Col., U.S.A.F.
 Mitchell, R. C., Iowa City
 (Yorktown, Va.)Lt., U.S.N.R.
 Montgomery, A. E., Jefferson
 (APO San Francisco, Calif.)Lt. Col., A.U.S.
 Mulder, L., Sioux Center
 (Sioux Falls, S. D.)Capt., U.S.A.F.

Neagle, P. E., Dubuque
 Nicholson, R. W., Paton
 Nordin, C. A., Des Moines
 (Lackland Field, Texas)1st Lt., U.S.A.F.
 Odell, J. E., Iowa City
 (Seattle, Wash.)Lt., U.S.N.
 Piburn, M. F., Preston1st Lt., A.U.S.
 Ruble, R. L., Nevada
 (Camp Chaffee, Ark.)A.U.S.
 Schultz, M. H., Waterloo
 (Weaver, S.D.)Capt., U.S.A.F.
 Shaffer, F. J., Iowa CityCol., U.S.A.F.
 Simonsen, M. N., Sioux City
 (Oakland, Calif.)Lt. Cmdr., U.S.N.R.
 Smith, C. B., Iowa City
 (Fort Jackson, S. C.)Capt., A.U.S.
 Stutsman, R. E., Washington
 (San Diego, Calif.)Cmdr., U.S.N.
 Taylor, H. N., Iowa City
 Tempel, P. F., Steamboat Rock
 (APO San Francisco, Calif.)Capt., A.U.S.
 Thistlewaite, E. A., Des Moines
 (Riverside, Calif.)1st Lt., U.S.A.F.
 Thomas, J. H., Sibley
 (Austin, Texas)U.S.A.F.
 Tice, W. K., Iowa City
 (APO San Francisco, Calif.)1st Lt., A.U.S.
 Tyler, D. E., ShenandoahU.S.N.R.
 Vincent, J. F., Fort Dodge
 (Langley A.F.B., Va.)Capt., U.S.A.F.
 von Lackum, L. S., Oelwein
 (FPO San Francisco, Calif.)Lt., U.S.N.R.
 Waldmann, E. B., Council Bluffs
 (Santa Ana, Calif.)Lt., U.S.N.R.
 Walz, D. V., Le Mars
 (Weaver, S. D.)1st Lt., U.S.A.F.
 Wehrmacher, W. H., Iowa City
 (Oceanside, Calif.)U.S.N.R.
 Wheeler, R. A., Des Moines
 (Camp Crowder, Mo.)1st Lt., A.U.S.
 *Wilkins, D. S., Iowa City
 (APO San Francisco, Calif.)Capt., A.U.S.
 Woolfolk, J. H., II, Waterloo
 (Weaver, S. D.)U.S.A.F.
 Zeilenga, R. H., Orange City
 (Kansas City, Kan.)1st Lt., U.S.A.F.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

MEETING OF THE BOARD OF TRUSTEES

December 16, 1951

The Board of Trustees of the Iowa State Medical Society met in the central office December 16 with all members present. Also present were the Secretary and General manager, and for a short time, chairman of the Legislative Committee, Dr. Frank C. Coleman, and Mr. Irving W. Myers, attorney.

The budget for 1952 was set up; bills were authorized; Mr. Myers' report of his work for 1951 was received and it was decided to report to the membership on what he had done. A second loan from the Baldrige-Beye Fund was authorized; representatives authorized to attend the Conference on Rural Health; and construction of a new office building discussed. It was voted to obtain an option on property for such an office and to get detailed plans and specifications before the next meeting. The board also voted to purchase bonds in the amount of \$10,000.00 to add to the surplus. Meeting adjourned at four p.m.

COUNTY MEDICAL SOCIETY OFFICERS

| COUNTY | PRESIDENT | SECRETARY | DEPUTY COUNCILOR |
|-------------------------|--------------------------------------|---------------------------------------|--------------------------------|
| Adair..... | R. E. Wiley, Fontanelle..... | A. S. Bowers, Orient..... | A. S. Bowers, Orient |
| Adams..... | C. L. Bain, Corning..... | J. C. Nolan, Corning..... | A. W. Brunk, Prescott |
| Allamakee..... | M. F. Kiesau, Postville..... | J. H. McCullough, Waukon..... | J. W. Thornton, Lansing |
| Appanoose..... | E. F. Ritter, Centerville..... | R. R. Edwards, Centerville..... | |
| Audubon..... | L. E. Jensen, Audubon..... | H. K. Mersells, Audubon..... | L. E. Jensen, Audubon |
| Benton..... | E. D. Lovett, Vinton..... | N. C. Knosp, Belle Plaine..... | E. D. Lovett, Vinton |
| Black Hawk..... | C. W. Seibert, Waterloo..... | G. D. Phelps, Waterloo..... | D. W. Bickley, Waterloo |
| Boone..... | T. E. Kane, Boone..... | H. C. Scharnweber, Boone..... | H. C. Scharnweber, Boone |
| Bremer..... | H. W. Rathe, Waverly..... | R. P. Hardwig, Waverly..... | |
| Buchanan..... | P. J. Leehey, Independence..... | J. F. Loeck, Independence..... | J. F. Loeck, Independence |
| Buena Vista..... | K. H. Prescott, Storm Lake..... | T. E. Shea, Storm Lake..... | H. E. Farnsworth, Storm Lake |
| Butler..... | M. D. Enna, Dumont..... | F. F. McKean, Allison..... | B. Ensley, Shell Rock |
| Calhoun..... | F. W. Hobart, Lake City..... | C. R. Wilson, Manson..... | W. W. Weber, Pomeroy |
| Carroll..... | R. B. Morrison, Carroll..... | J. M. Tierney, Carroll..... | J. R. Martin, Carroll |
| Cass..... | W. F. Giegerich, Atlantic..... | R. H. Moe, Griswold..... | |
| Cedar..... | H. E. O'Neal, Tipton..... | O. E. Kruse, Tipton..... | P. M. Hoffman, Tipton |
| Cerro Gordo..... | E. H. Barg, Mason City..... | G. I. Tice, Mason City..... | L. W. Swanson, Mason City |
| Cherokee..... | W. C. Brinegar, Cherokee..... | D. C. Koser, Cherokee..... | C. E. Broderick, Cherokee |
| Chickasaw..... | A. L. Murphy, Fredericksburg..... | J. H. Ahrens, New Hampton..... | P. E. Gardner, New Hampton |
| Clarke..... | C. R. Harken, Osceola..... | H. N. Boden, Osceola..... | H. E. Stroy, Osceola |
| Clay..... | L. D. Colbert, Royal..... | G. F. Fieselmann, Spencer..... | C. C. Jones, Spencer |
| Clayton..... | T. W. Lichter, Edgewood..... | E. G. Kettlekamp, Monona..... | P. R. V. Hommel, Elkader |
| Clinton..... | G. M. Ellison, Clinton..... | E. O. Hicks, Clinton..... | R. F. Luse, Clinton |
| Crawford..... | J. M. Hennessey, Manilla..... | J. J. Gleeson, Vail..... | R. M. Johnson, Denison |
| Dallas-Guthrie..... | A. G. Felter, Van Meter..... | W. C. Wildberger, Perry..... | C. A. Nicoll, Panora |
| Davis..... | R. Schoonover, Bloomfield..... | H. C. Young, Bloomfield..... | G. W. Gilfillan, Bloomfield |
| Decatur..... | K. R. Brown, Leon..... | T. R. Viner, Leon..... | F. A. Bowman, Leon |
| Delaware..... | P. Stephen, Manchester..... | P. G. Meyer, Manchester..... | |
| Des Moines..... | H. Eastburn, Burlington..... | J. F. Sulzbach, Burlington..... | F. G. Ober, Burlington |
| Dickinson..... | R. F. Wolcott, Spirit Lake..... | P. A. Scott, Spirit Lake..... | T. L. Ward, Arnolds Park |
| Dubuque..... | E. T. Thorsness, Dubuque..... | M. S. Lagen, Dubuque..... | D. F. Ward, Dubuque |
| Emmet..... | H. A. Lindholm, Armstrong..... | J. L. Powers, Estherville..... | C. S. Kirkegaard, Estherville |
| Fayette..... | L. E. Ketner, Oelwein..... | A. F. Grandinetti, Oelwein..... | C. C. Hall, Maynard |
| Floyd..... | R. A. Fox, Charles City..... | E. V. Ayers, Charles City..... | R. A. Fox, Charles City |
| Franklin..... | W. R. Arthur, Hampton..... | R. T. Day, Hampton..... | W. L. Randall, Hampton |
| Fremont..... | R. Lovelady, Sidney..... | A. E. Wanamaker, Hamburg..... | R. Lovelady, Sidney |
| Greene..... | M. H. Brinker, Jefferson..... | E. D. Thompson, Jefferson..... | M. H. Brinker, Jefferson |
| Grundy..... | H. V. Kahler, Reinbeck..... | W. K. Kienzle, Wellsburg..... | E. A. Reedholm, Grundy Center |
| Hamilton..... | B. F. Howar, Webster City..... | W. B. McGahey, Stratford..... | B. F. Howar, Webster City |
| Hancock-Winnebagot..... | T. McMahon, Garner..... | H. G. Feldick, Buffalo Center..... | C. V. Hamilton, Garner |
| Hardin..... | W. A. Johnson, Iowa Falls..... | F. N. Cole, Iowa Falls..... | L. F. Parker, Iowa Falls |
| Harrison..... | F. X. Tamisiea, Missouri Valley..... | A. C. Bergstrom, Missouri Valley..... | F. A. Hanson, Magnolia |
| Henry..... | J. R. Beebe, Mt. Pleasant..... | J. G. Widmer, Wayland..... | S. Jackson, Mt. Pleasant |
| Howard..... | M. E. Henslin, Cresco..... | C. A. Field, Cresco..... | P. A. Nierling, Cresco |
| Humboldt..... | I. T. Schultz, Humboldt..... | T. G. Herrick, Gilmore City..... | I. T. Schultz, Humboldt |
| Ida..... | E. H. Heilman, Ida Grove..... | J. B. Dressler, Ida Grove..... | M. W. Grubb, Galva |
| Iowa..... | G. W. Howe, Marengo..... | I. J. Sinn, Williamsburg..... | C. F. Watts, Marengo |
| Jackson..... | A. Broman, Maquoketa..... | W. C. Zabloudil, Preston..... | F. J. Swift, Maquoketa |
| Jasper..... | J. R. Singer, Newton..... | L. H. Koelling, Newton..... | J. W. Ferguson, Newton |
| Jefferson..... | R. A. McGuire, Fairfield..... | J. W. Castell, Fairfield..... | R. A. McGuire, Fairfield |
| Johnson..... | W. Spear, Oakdale..... | E. J. Boyd, Iowa City..... | G. C. Albright, Iowa City |
| Jones..... | R. D. Paul, Anamosa..... | R. W. Myers, Monticello..... | T. M. Redmond, Anamosa |
| Keokuk..... | J. N. Kenefick, Algona..... | J. M. Schutter, Algona..... | J. G. Clapsaddle, Burt |
| Kossuth..... | B. D. Van Werden, Keokuk..... | W. B. Kasiske, Keokuk..... | F. L. Feightner, Ft. Madison |
| Lee..... | E. H. Files, Cedar Rapids..... | W. K. Cooper, Cedar Rapids..... | |
| Linn..... | L. E. Weber, Wapello..... | J. H. Chittum, Wapello..... | J. H. Chittum, Wapello |
| Louisa..... | A. L. Yocom, Chariton..... | R. E. Anderson, Chariton..... | R. E. Anderson, Chariton |
| Lucas..... | A. C. Wubben, Rock Rapids..... | S. H. Cook, Rock Rapids..... | S. H. Cook, Rock Rapids |
| Lyon..... | G. J. Anderson, Winterset..... | P. F. Chesnut, Winterset..... | C. B. Hickenlooper, Winterset |
| Madison..... | F. O. Voigt, Oskaloosa..... | J. Lederman, Oskaloosa..... | E. B. Wilcox, Oskaloosa |
| Mahaska..... | R. V. Mater, Knoxville..... | W. W. Bourke, Knoxville..... | H. L. Bridgeman, Knoxville |
| Marion..... | B. M. Biersborn, State Center..... | H. E. Sauer, Marshalltown..... | R. C. Carpenter, Marshalltown |
| Marshall..... | W. A. DeYoung, Glenwood..... | T. E. Shonka, Malvern..... | T. E. Shonka, Malvern |
| Mills..... | C. F. Watson, Stacyville..... | R. B. Isham, Osage..... | J. O. Eiel, Osage |
| Mitchell..... | J. L. Garred, Whiting..... | P. L. Wolpert, Onawa..... | C. W. Young, Onawa |
| Monona..... | W. S. Chester, Albia..... | H. J. Richter, Albia..... | H. J. Richter, Albia |
| Monroe..... | F. J. Croxdale, Villisca..... | S. D. Poore, Villisca..... | E. L. Croxdale, Villisca |
| Montgomery..... | D. C. Alftine, Muscatine..... | R. F. Klein, Muscatine..... | C. P. Phillips, Muscatine |
| Muscatine..... | R. E. Griffin, Sheldon..... | W. S. Balkema, Sheldon..... | T. D. Kas, Sutherland |
| O'Brien..... | E. S. Aeilts, Sibley..... | F. M. Rizzo, Sibley..... | F. Reinsch, Ashton |
| Osceola..... | H. R. Henstorf, Shenandoah..... | S. T. Ramsdell, Clarinda..... | C. N. Flynn, Clarinda |
| Page..... | J. E. Black, Emmetsburg..... | W. A. Johnson, Emmetsburg..... | H. L. Brereton, Emmetsburg |
| Palo Alto..... | R. J. Fisch, LeMars..... | L. C. O'Toole, Le Mars..... | H. L. Vander Stoep, Le Mars |
| Plymouth..... | E. O. Loxterkamp, Rolfe..... | C. L. Jones, Gilmore City..... | C. L. Jones, Gilmore City |
| Pocahontas..... | C. A. Sones, Des Moines..... | F. C. Coleman, Des Moines..... | R. J. Steves, Des Moines |
| Polk..... | J. D. Hennessy, Council Bluffs..... | A. M. Pedersen, Council Bluffs..... | G. V. Caughlan, Council Bluffs |
| Pottawattamie..... | J. C. DeMuelenaere, Grinnell..... | L. C. Hickerson, Brooklyn..... | S. D. Porter, Grinnell |
| Poweshiek..... | W. G. Doss, Mt. Ayr..... | J. W. Hill, Mt. Ayr..... | E. J. Watson, Diagonal |
| Ringgold..... | C. E. Lierman, Lake View..... | A. A. Blum, Wall Lake..... | C. E. Lierman, Lake View |
| Sac..... | P. E. Gibson, Davenport..... | J. F. Bishop, Davenport..... | A. P. Donahoe, Davenport |
| Scott..... | G. E. Larson, Elk Horn..... | R. E. Donlin, Harlan..... | J. H. Spearing, Harlan |
| Shelby..... | D. K. Haggard, Hawarden..... | C. B. Murphy, Alton..... | W. Doornink, Orange City |
| Sioux..... | H. Hildebrand, Ames..... | W. B. Armstrong, Ames..... | |
| Story..... | K. E. Fee, Toledo..... | A. J. Havlik, Tama..... | A. J. Havlik, Tama |
| Tama..... | R. W. Boulden, Lenox..... | H. C. Moore, Clearfield..... | G. W. Rimel, Bedford |
| Taylor..... | M. R. Paragas, Creston..... | H. J. Peggs, Creston..... | C. C. Rambo, Creston |
| Union..... | L. A. Coffin, Farmington..... | J. T. Worrell, Keosauqua..... | L. A. Coffin, Farmington |
| Van Buren..... | S. Brody, Ottumwa..... | E. B. Hoeven, Ottumwa..... | C. A. Henry, Farson |
| Wapello..... | G. A. Jardine, New Virginia..... | D. M. Hickman, Indianola..... | C. H. Mitchell, Indianola |
| Warren..... | C. W. Beckman, Kalona..... | W. S. Kyle, Washington..... | E. D. Miller, Wellman |
| Washington..... | C. N. Hyatt, Humeston..... | C. F. Brubaker, Corydon..... | J. H. McCall, Allerton |
| Wayne..... | O. N. Glesne, Fort Dodge..... | E. M. Van Patten, Fort Dodge..... | C. J. Baker, Fort Dodge |
| Webster..... | R. V. Svendsen, Decorah..... | L. C. Kuhn, Decorah..... | L. C. Kuhn, Decorah |
| Winneshiek..... | A. Q. Johnson, Sioux City..... | P. W. Osincup, Sioux City..... | D. B. Blume, Sioux City |
| Woodbury..... | G. S. Westly, Manly..... | B. H. Osten, Northwood..... | G. S. Westly, Manly |
| Worth..... | G. J. Hruska, Belmond..... | J. R. Christensen, Eagle Grove..... | S. J. Leinbach, Belmond |
| Wright..... | | | |

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1951-1952

President.....Donald C. Conzett, Dubuque
President-Elect.....Ben T. Whitaker, Boone
First Vice President.....Martin I. Olsen, Des Moines
Second Vice President.....Charles L. Jones, Gilmore City
Secretary.....Allan B. Phillips, Des Moines
Treasurer.....N. Boyd Anderson, Des Moines

COUNCILORS

| | Term Expires |
|---|--------------|
| First District—Cluley C. Hall, Maynard..... | 1952 |
| Second District—Charles H. Cretzmeyer, Algona..... | 1953 |
| Third District—Matthew T. Morton, Estherville..... | 1954 |
| Fourth District—Wendell L. Downing, Le Mars | |
| Chairman | 1953 |
| Fifth District—Ernest M. Kersten, Fort Dodge..... | 1954 |
| Sixth District—Otis D. Wolfe, Marshalltown..... | 1952 |
| Seventh District—Harold A. Housholder, Winthrop..... | 1953 |
| Eighth District—Clyde A. Boice, Washington..... | 1954 |
| Ninth District—Elias B. Howell, Ottumwa..... | 1953 |
| Tenth District—Ivan K. Sayre, St. Charles, Secretary..... | 1954 |
| Eleventh District—Oscar Alden, Red Oak..... | 1952 |

TRUSTEES

Robert N. Larimer, Sioux City, Chairman.....1952
Lonnie A. Coffin, Farmington.....1953
John W. Billingsley, Newton.....1954

DELEGATES TO A. M. A.

| | Term Expires |
|--------------------------------------|-----------------|
| George Braunlich, Davenport..... | January 1, 1953 |
| Julian E. McFarland, Ames..... | January 1, 1953 |
| Gerald Caughlan, Council Bluffs..... | January 1, 1954 |

ALTERNATE DELEGATES TO A. M. A.

Frank G. Ober, Burlington.....January 1, 1953
Ernest M. Kersten, Fort Dodge.....January 1, 1953
Donovan F. Ward, Dubuque.....January 1, 1954

EXECUTIVE COUNCIL

Donald C. Conzett, Chairman.....Dubuque
Ben T. Whitaker.....Boone
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines
Robert N. Larimer.....Sioux City
Lonnie A. Coffin.....Farmington
John W. Billingsley.....Newton
Cluley C. Hall.....Maynard
Charles H. Cretzmeyer.....Algona
Matthew T. Morton.....Estherville
Wendell L. Downing.....Le Mars
Ernest M. Kersten.....Fort Dodge
Otis D. Wolfe.....Marshalltown
Harold A. Housholder.....Winthrop
Clyde A. Boice.....Washington
Elias B. Howell.....Ottumwa
Oscar Alden.....Red Oak
George Braunlich.....Davenport
Gerald V. Caughlan.....Council Bluffs
Julian E. McFarland.....Ames

THE JOURNAL

Everett M. George, Editor.....Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

Donald C. Conzett, Chairman.....Dubuque
Ben T. Whitaker.....Boone
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City
Henry C. Scharnweber.....Boone
Joseph T. Priestley.....Des Moines

GRIEVANCE COMMITTEE

Leo C. Kuhn.....Decorah
Leslie W. Swanson, Secretary.....Mason City
Thomas L. Ward.....Arnolds Park
John W. Bushnell.....Sioux City
Joseph B. Priestley.....Des Moines
S. Dale Porter, Chairman.....Grinnell
Robert L. Knipfer.....Jesup
Harry B. Weinberg, Vice Chairman.....Davenport
Elmer A. Larsen.....Centerville
Lester E. Hooper.....Indianola
Charles H. Flynn.....Clarinda

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines
John W. Billingsley.....Newton
John D. Conner.....Nevada
Donald C. Conzett.....Dubuque
Allan B. Phillips.....Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

F. Harold Entz, Chairman.....Waterloo
Lee F. Hill.....Des Moines
John H. Randall.....Iowa City

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines.....1953
Loren K. Meredith, Des Moines.....1952
Eugene F. Van Epps, Iowa City.....1954

COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman.....Des Moines
Martin I. Olsen.....Des Moines
Otto N. Glesne.....Fort Dodge
James E. Reeder.....Sioux City
Callistus H. Stark.....Cedar Rapids
Frank D. McCarthy.....Sioux City
Joe G. Fellows.....Ames
Roy C. Gutch.....Chariton
Tom D. Throckmorton.....Des Moines

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport
Willis M. Fowler.....Iowa City
Emory D. Warner.....Iowa City

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmund F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Des Moines
J. Donald Hennessy.....Council Bluffs

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Cecil V. Hamilton, Chairman.....Garner
J. Stewart Jackson.....Mt. Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora
Ruth F. Wolcott.....Spirit Lake

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON INDUSTRIAL HEALTH

Howard H. Smead, Chairman.....Des Moines
Van Robinson.....Des Moines
Raymond F. Frech.....Newton
Leo J. Mitner.....Davenport
Carl J. Lohmann.....Burlington
Edward L. Rohlf, Jr.....Waterloo
Harold A. Spilman.....Ottumwa

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids

NATIONAL EMERGENCY MEDICAL SERVICE

John W. Ferguson, Chairman.....Newton
Floyd M. Burgeson.....Des Moines
Edward M. Honke.....Sioux City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Emil A. Fullgrabe.....Sioux City
Rubin H. Flocks.....Iowa City

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Russell M. Wolfe.....Marshalltown
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Raymond J. Harrington, Chairman.....Sioux City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
Ralph E. Smiley.....Mason City
William Spear.....Oakdale

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, FEBRUARY, 1952

No. 2

COMMON LESIONS OF THE BREAST*

JOHN W. CLINE, M.D.**

AND

PHILIP R. WESTDAHL, M.D.

SAN FRANCISCO, CALIF.

THE PROPAGANDA of recent years to educate the public concerning the indications of malignancy and the importance of early diagnosis has resulted in impressing the hazard of carcinoma of the breast upon the women of this country. An increasing number of women are seeking medical advice for some abnormality of the breasts or for the reassurance that none is present.

The physician is called upon to examine more and more breasts which present little demonstrable pathology or confusing findings. The emphasis upon self-examination of the breast and the effort to make every physician's office a cancer detection center indicate that this increase will continue.

The instances in which instruments of precision or laboratory procedures aid in establishing a clinical diagnosis are rare. Almost complete reliance must be placed upon history and physical examination. It seems trite to say that proper examination is of utmost importance and one would hesitate to mention it were it not for the frequency with which examples of incomplete or improper examination are encountered.

Proper examination of the breast depends more upon thoroughness than method. It must be looked upon as an entity in any physical examination and as worthy of systematic approach as examination of the heart. More lives probably can be saved by attention to detail in examining the breast than by the most careful and complete cardiac investigation.

The sequence of examination is of less importance than that all pertinent observations be made. A planned routine, however, will minimize the hazard of overlooking an important element. That which we follow has proven satisfactory.

1. *Examination of the supraclavicular fossae and axillae.* The patient is seated on the end of a table with chest, breasts and upper extremities exposed and the supraclavicular regions are palpated. The deeper structures can be made more easily palpable by slight inclination of the head toward the side being examined.

The subpectoral portion of the axilla can be palpated best with the patient's hand placed lightly on the shoulder of the examiner. This region is the site of most frequently palpable metastasis.

The apex of the axilla is most difficult to reach. Small glands at this site cannot be felt. If the patient places the hand on the crest of the ilium as the examiner introduces his finger tips into the axilla and then loosely drops the arm to the side the upper portions of the axilla can be reasonably well palpated.

2. *Inspection.* The examination should be conducted in a good light. Observations are made for comparative size, position, symmetry, contour and the skin of the breasts, the condition of the areolae and nipples, and the position, shape and direction of the nipples. Minor changes may be the clue to important pathology.

Inspection is first made with the breasts in relaxed dependent position with the arms at the side. The arms are then raised over the head. The patient then bends forward allowing the breasts to fall away from the body. After resuming the upright position the patient places the hands on the ilia and makes firm pressure to contract the pectoral muscles.

Indentation or bulging of the contour of the breast in the course of one of these maneuvers may demonstrate pathology which would not have been seen in another position. Minor retraction of the skin may be seen. This results from contraction of the fibrous septa which are attached to the skin and the underlying fascia. Abnormal flattening, fixation or deviation of the nipple may be observed as a result of duct fixation.

3. *Palpation:* We believe palpation to be the most important observation. It has some value in the seated position but the axillary "tail," the

* Presented at the One Hundredth Annual Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

** President, American Medical Association.

central and lower portions are not well felt in this position and in general palpation is more satisfactory with the patient supine.

Palpation should be gentle and systematic. Gentle touch yields more information than firm pressure and is less apt to cause emboli of malignant cells.

Use of the flat palmar surfaces of the fingers to compress the breast tissue against the chest wall reveals irregularities more easily than bimanual examination or compression of the breast tissue between the fingers, except in the central portion where the latter method is of value, especially in large breasts.

The breast should be relaxed and changes in position causing the large breast to fall in one direction or another are of assistance in examining the opposite portion. The "shelf" of the breast can be palpated best with the breast drawn upward.

Moistening the fingers with ordinary lubricating jelly makes it easier to outline masses and to recognize those of small size.

The nipple should be palpated between the fingers and fixation ruled out by gentle traction in different directions.

4. *Transillumination*: Resistance to the passage of light will reveal the nature of certain masses and occasionally will reveal an abnormality which is difficult to palpate. It is worth doing but is often disappointing in practice.

5. *Nipple Discharge*: Nipple discharge should be smeared, fixed, stained and examined by a competent pathologist. The presence of blood cells can be established. Epithelial cells can be identified and their character may be determined. Cytological studies are not sufficiently accurate to establish a firm diagnosis except on rare occasion. Use of the method in conjunction with the clinical picture is of sufficient value to warrant complete exploration of its possibilities and as experience grows its value may increase. More studies correlating the smears with microscopic examination of tissue are needed.

Clinical diagnosis can be fairly accurate and in certain conditions may be depended upon. In the presence of a mass the percentage of error is fairly high even in the most experienced hands. Final diagnosis must depend upon microscopic study of the abnormal tissue.

MASTODYNIA (Painful breasts)

A majority of women experience some discomfort in the breasts during the premenstruum. Usually this is of short duration and not sufficiently severe to warrant treatment. A woman may be disturbed by minor symptoms and require only reassurance that no significant pathology is present. Some patients have troublesome, persistent pain with premenstrual aggravation

and this may be severe enough to interfere with sleep.

No age in the reproductive period is exempt. The maximum age incidence is between 25 and 40, and the average age is about 35. Any part of either or both breasts may be involved and the condition is slightly more frequently bilateral than unilateral. The maximum site of involvement is in the upper outer quadrant and in the "tail" of the breast. Patients often find a tender swelling or mass.

Examination reveals a tender, doughy, elevated area which is thicker and more irregular than the remainder of the breast. A discreet mass is seldom palpable unless other pathology is present.

The cyclic change, the association with infertility and menstrual abnormalities establish it as due to endocrine disturbance. Experimental and clinical observations indicate it is due to corpus luteum deficiency.

It is usually self-limited and infrequently persists for more than two to three years. It may, however, be of much longer duration and may recur. Protracted symptoms are more common in younger women with undeveloped breasts and there is some tendency for this type later to be replaced by adenosis.

The usual histological picture is that of imperfect lobular development with increase in periductal and interlobular stroma. Epithelial proliferation may be sufficient to resemble adenosis.

Treatment: 1. In most instances examination and mechanical support suffice.

2. Endocrine therapy is valuable in more severe cases. Estrogen 10,000 units once or twice weekly between periods for two cycles followed by a single injection in the premenstruum of succeeding cycles relieves a large number. The beneficial result probably is due to corpus luteum stimulation.

Progesterone 5–10 mg. twice weekly for four to eight weeks will usually improve or eliminate the symptoms and is preferable to estrogen. Testosterone 25 mg. weekly may help those not relieved by estrogen or progesterone but is not usually necessary.

If an isolated mass be present exploration must be carried out in spite of the likelihood that no important pathology will be found.

ADENOSIS (Adenocystic, microcystic, Schimmelbusch's disease)

Any age between 20 and 60 may be affected but the maximum incidence is between 35 and 45. It is bilateral in 60 percent of the cases and is often diffuse but the maximum involvement is in the upper outer quadrant and the disease may be localized to this area.

A previous history of mastodynia is frequent. There is pain in the premenstruum and most

patients are conscious of a lump or nodularity in the breast. The patients may observe that the lumps come and go. The disease tends to be chronic.

Examination shows an easily palpable edge at the periphery of the breast. There are multiple nodules 1 mm. to 1 cm. in diameter (shotty breasts). Tenderness is often present over elevated tissue. The breasts transilluminate poorly.

Clinical and experimental observations indicate an endocrine origin. The breasts usually are small, sterility is common, and irregularity of the menstrual periods is the rule. Most patients are of the small, poorly nourished and underdeveloped type. Hyperthyroidism is said to be common.

Hyperplasia is the dominant feature of the microscopic picture with proliferation of the epithelium of terminal tubules and the formation of multiple intraductal adenomata and papillomata. There is increase in the periductal and perilobular stroma with invasion of the stroma by epithelium which proliferates in a disorderly fashion. The microscopic picture may resemble comedo carcinoma.

Treatment: The condition appears to be the result of actual or relative hyperestrogenism of long standing. This fact coupled with the knowledge that the incidence of carcinoma of the breast is five to seven times more common in adenosis than in the general female population may make use of estrogens potentially dangerous. In the animals administration of large amounts of estrogen will produce adenosis as one of the stages preceding the development of carcinoma.

While many patients will respond to this therapy, at least temporarily, it is much wiser to use progesterone in the manner described with mastodynia.

Any isolated lump or cyst or one which is larger or differs from the others should be explored for complete diagnosis. No other operative procedure except bilateral mastectomy is of value and with the exclusion of carcinoma radical surgery is contraindicated.

The increased incidence of carcinoma, even though not great, makes it necessary that such patients be kept under close and protracted observation.

CYSTIC DISEASE

Cysts of the breast are rare before 25 years of age, the maximum incidence is between 40 and 45. They occur most frequently just prior to and about the time of the menopause. Some appear even much later.

About 65 per cent are solitary and 35 per cent multiple. In about 15 per cent of cases they are bilateral. They usually are situated away from the periphery and are more common in the upper hemisphere, especially the upper outer quadrant.

They vary widely in size ranging usually between 1 cm. and 7.5 cm. in diameter.

The epithelial lining of cysts may be composed of cuboidal or columnar cells with a pale, even staining cytoplasm but often the epithelium is replaced by fibrous tissue. Dilated ducts and small cysts may be present in the same sections. The lobular structures are poorly defined and increase in dense sclerotic fibrous tissue is usual.

Subjective symptoms are slight in most cases, but discomfort or pain may draw the patient's attention to the breast. Often the patient accidentally discovers the cyst or it is found on routine examination.

Patients may report that cysts have previously come and gone and some do so under observation. They usually appear suddenly without prior history.

The physical characteristics of the cysts vary in some degree with size, position and the relationship to fibrous tissue. The dome is discreet, rounded, and not attached to the subcutaneous tissue except in rare instances. The cyst is tense, smooth, movable. In the large ones fluctuation usually can be demonstrated.

The breasts vary in size but medium to large breasts predominate. Most transilluminate well but thick walled cysts or those with thick contents may not.

Treatment: Certain clinicians advocate aspiration of a cyst for diagnosis and treatment. There are disadvantages to this procedure. While examination of the cyst fluid for blood, the nature of epithelial cells and careful observation of the patient reduce the dangers they are not eliminated. The authors have seen carcinoma associated with cysts giving all indications of being benign. Prompt exploration excludes malignancy and cures about 85 per cent of the patients. About 65 per cent recur after aspiration.

We reserve aspiration for patients with recurrent cysts where the nature of the pathology has previously been established. Even then we do so with some trepidation.

Exploration is mandatory in patients at or beyond the menopause, those in which doubt as to the nature exists or if bloody fluid is present and advisable in practically all others.

No therapy other than excision (or aspiration) is of value.

FIBROADENOMA

Fibroadenomata may appear from childhood to old age. The maximum incidence is between 20 and 25 years. They are single in 85 per cent, multiple in 15 per cent and bilateral in 5 per cent. Most occur in the upper half of the breast and especially in the upper outer quadrant.

These are isolated, smooth, movable, rounded or lobulated tumors. Most are firm unless they are large. Large tumors may be semi-fluctuant.

Microscopically, they consist of encapsulated

fibrous tissue in which are epithelial components of varying extent. The connective tissue usually predominates and may be firm or myxomatous.

They tend to grow rapidly during pregnancy and at the menopause and experimental evidence indicates that they are of endocrine origin.

Treatment: The treatment consists of excision. They are isolated tumors and while they rarely have the characteristics of malignancy, malignant lesions may resemble them closely. The hazard of rapid growth during a subsequent pregnancy or at the menopause and the possible danger (while fairly remote) of future degeneration into sarcoma make their excision with a margin of normal tissue advisable. Removal may be followed by new tumors but these are not recurrences.

In young women the Warren incision has the advantage of decreasing the deformity resulting from the scar of exploration and excision.

PAPILLOMA

Papillomata, except those arising in adenosis, are more frequently single than multiple. They may occur as early as adolescence or well beyond menopause. The maximum incidence is in the age group of 45 to 50. Most are intraductal but some occur in cysts.

The most common symptom is discharge from the nipple. This may be serous, serosanguinous or bloody. The presence of blood is more characteristic of this condition than is other discharge.

The majority are situated in dilated ducts beneath or near the areola. The mass may be palpable or an enlarged duct may be felt but at times no abnormality can be demonstrated by palpation. Transillumination may show an ovoid or tubular opaque shadow.

Careful systematic palpation of the breast and observation of the duct orifices usually will reveal the duct draining the segment of the breast which gives rise to the discharge.

When a mass can be felt and pressure over it causes the discharge, the source is obvious and the mass should be removed. A definite mass deserves excision regardless if associated with bleeding.

Treatment: If the involved duct can be demonstrated by systematic palpation or transillumination, exploration by the method of Babcock and wedge excision of the breast is the treatment of choice.

If the source of discharge cannot be isolated and no mass is present, close and prolonged observation is indicated. The bleeding will cease or its source will become apparent in the course of time.

At the time of removal of a mass or segment of the breast the tissue should be examined grossly. The thin, friable nature of the intraductal papillomata may make frozen section difficult and this method is less reliable than paraffine

sections. If any doubt remains concerning the malignant nature of the lesion the wound should be closed and further treatment postponed until the paraffine sections are available.

There has been wide divergence of opinion concerning the frequency with which bleeding from the nipple is a manifestation of carcinoma. Bleeding is almost always the result of an intraductal neoplasm or one communicating with the duct system. The vast majority are benign but carcinoma is sufficiently frequently associated with this symptom that one cannot afford to ignore it.

Occasionally, cytological study of the discharge may be helpful but is not sufficiently accurate to warrant predicated treatment upon it except in a rare instance.

Patients who have had benign papillomata, and those presenting bleeding from the nipple but who have not been operated upon, have been followed for long periods. They have had a considerably higher incidence of subsequent cancer than would be expected in females of the same age group. The number who develop carcinoma is small but the percentage is high enough that they must be followed for the remainder of their lives.

Simple mastectomy is unduly mutilating for benign lesions, except in a rare instance, and inadequate for malignant ones.

PAGET'S DISEASE OF THE NIPPLE

Paget's disease must be recognized as a form of carcinoma. The peak age of incidence is later than in most types, being about 55 years. Usually the symptoms are primarily in the nipple but a mass in the breast may precede nipple symptoms. The nipple always is involved ultimately.

Itching, burning, pain, ulceration, crusting and discharge are the usual symptoms. The subjective symptoms may be mild or absent and crusting, weeping and ulceration may predominate. Early in the disease the nipple is reddened, granular and enlarged. Cracks and fissures are common. It is difficult to differentiate Paget's disease from benign keratosis unless a mass is present in the breast.

Such lesions should not be treated protractedly by local measures. The prognosis as with other mammary cancer is good if the diagnosis is made early but poor at a later time. Unfortunately, the majority are late cases.

Treatment: The nipple, surrounding area and the underlying ducts should be excised for biopsy. If carcinoma be present a radical mastectomy should be performed without delay.

CARCINOMA

The limitations of surgical and radiation therapy are such that the most important element of success in dealing with mammary cancer is time. Radical mastectomy will result in complete

eradication if performed sufficiently early. Late treatment of any type is extremely disappointing. Adequate treatment of early carcinoma will yield a five year period of freedom from disease in 80 to 90 per cent of patients. As the disease progresses the salvage rate falls to zero.

No definite isolated nodule of the breast can be considered benign until so proven by microscopic examination. Excisional biopsy is the method of choice for nodules with benign characteristics. In lesions suspected of being malignant incisional biopsy is preferable. Most masses are suitable for frozen section and in most instances the method is accurate. If a definite diagnosis of carcinoma is made the radical operation should precede at once. Delay is undesirable and two operations are thus avoided.

In exploration in cases of malignancy it is important that bleeding be controlled and the surface of the cavity resulting from the biopsy be dry. Fulguration or cauterization will devitalize the surface cells. Packing the cavity with gauze and tight closure of the skin with two superimposed rows of continuous silk sutures will prevent leakage. Implantation of carcinoma cells constitutes a real hazard, as has been demonstrated by its occurrence in skin graft donor sites.

We must have confidence in and rely upon our pathologists but we must not expect too much of them. If the tissue removed is not suitable for frozen section or a positive diagnosis cannot be made by this method the wound is closed properly and the paraffine sections awaited. The delay should not be greater than 24 to 48 hours. This is undesirable in the event of an ultimate diagnosis of malignancy but a short delay has not been demonstrated to be definitely harmful. We believe it preferable to an unnecessarily radical operation.

Little is to be gained by operation upon inoperable lesions. Extension of the disease beyond the scope of radical mastectomy destroys the value of the operation and may make it actually harmful. Such cases are best treated by radiation with or without endocrine therapy.

Soft part lesions in women over 65 may yield temporarily or even fairly protractedly to estrogens. Testosterone administered to the point of masculination may benefit patients with bony metastases but in our experience has been less beneficial than early reports indicated.

Recurrence and metastases are treated primarily by radiation. There is considerable doubt that postoperative radiation has value but it is our practice to use it in the cases in which axillary metastases are present. The Stanford series shows substantially the same results with and without postoperative radiation. By using it, however, we hope to imprison remaining cancer cells in heavy fibrous tissue and give those patients in whom the disease has not been eradicated a longer period of freedom from symptoms.

The statistics of mammary carcinoma are confusing and difficult to interpret. The basis of compilation must be known and comparative figures even if arrived at by identical methods may be misleading unless interpreted by expert statisticians.

One salient fact stands out. The earlier the lesion, the greater the chance for future freedom from disease. We must look upon any mass or nodule of the breast as being malignant until proven otherwise. Microscopic examination is the only method of positive diagnosis. The greatest prospect for cure lies in biopsy of lesions which are small and of indefinite nature. When a positive clinical diagnosis of malignancy can be made it is often too late to eradicate the disease.

PHYSICAL AND MENTAL HEALTH IN THE AGED

ELIZABETH C. HORVATH, M.S.

AND

STEVEN M. HORVATH, M.S., Ph.D.*
IOWA CITY

IN THE sedentary cultures now existing long life is favored. Consequently, on the basis of our culture, both in terms of technology and of social consciousness, the approach to the aging population of today presents a new and vastly different problem from that posed to earlier cultures. No longer need the aged be considered in terms of their physical capacity to fight or produce food, whether by hunting or by agriculture. The new problems of taking care (not merely sustenance care) of this population group require a new approach and, more significantly, new data on the capabilities of the aged to contribute, to sustain themselves and to survive in our present scientific age. We must guard, however, against the universal tendency of science to consider the group alone and inadvertently to ignore the individual. Our approach should be to study and define group capabilities and then to correlate the individual's capacities with these norms.

Aging is not all depreciation—it is not a steady downhill process. Some organ systems improve, others deteriorate; some capacities diminish, others increase. For example, as speed decreases skill and endurance increase. Records for the 100- to 440-yard dashes are held by the relatively young, records for marathon runs by the slightly older (to 45 years). A similar statement can be made regarding mental or physical health although, since the state of health is relative, it is much more difficult to find concrete examples.

For the sake of convenience in discussion, mental health may be considered apart from physical health, but in actuality they are by no

* Associate Professor of Physiology; and Investigator in Charge of General Physiology, Cardiovascular Laboratory; College of Medicine, State University of Iowa.

means mutually exclusive, either physiologically or pathologically. Each depends on the other. This relationship often is brought to one's attention by the response of friends or relatives to one consequence of aging—retirement. It happens too frequently that a hale and hearty businessman who is forced to retire in the prime of his life (because of our attitude based on a group approach to the problems of aging) quickly breaks down both physically and mentally. The basic cause of such an individual's breakdown is not the *retirement*, but this retirement is the final *stress*, the one which he cannot overcome. The prospective long life is influenced most significantly by the stresses or insults to which the individual is, or permits himself to be, subjected to during his lifetime. The individual's personal history of physical or mental ailments has a very important bearing on his longevity. Many of the illnesses to which he falls victim during his career leave indelible marks that affect his longevity. Abnormalities of build and extremes of weight also involve some degree of curtailment of life. Environment plays a role also. Those individuals who live in the midwest and the northwest have on the average the greatest longevity in this country, while those who live along the Atlantic seaboard show somewhat decreased longevity. Urban dwellers have lower expectations than do rural inhabitants. Marriage also seems to be of some assistance, for married people live longer.

Perhaps more important than any of these factors are the steps the individual may take on his own behalf to correct or control the hardships of his environment. Valuable evidence is accumulating that through the practice of better personal hygiene, by correct and adequate nutrition and by means of a well ordered existence the average man may add many years to his expectation of life. The possibilities along these lines never have been explored fully, although the first concrete evidence appeared a hundred-odd years ago. Lindheim in Vienna made a comprehensive study of more than 700 people whose mean age was 85.5 years. They were taken from two widely divergent social strata, the very poor and very well situated. He concluded, "An increase of life duration is favored by marriage, descent from healthy long-living parents and grandparents, breast feeding, moderation and regularity in the conduct of life, cheerfulness and occupation till a ripe old age and retardment of retirement."

The changes that can be found in the aged organism start at a much earlier time than their apparent manifestations. In certain respects the most critical phase of aging occurs during the years from 40 to 60, a period of senescence and onset of potentially disabling changes. It is in this period also that the most can be accomplished to prepare for the successful and happy

time of being aged. It is at this time that one is presented with the alternative of preventing unnecessary depreciation or of patching, if he can, the later wreck and ruin.

The superficial aspects of aging—the wrinkles, the gray hair, the shiny dome—are not important. There are more important, even though less conspicuous, changes that occur in aging and bear a greater significance for a happy old age:

(1) *Retarded repair of tissues.* An injury to a man of 60 may require five times as many days to heal as a similar injury to a child of five years. This is a fact that the middle aged and elderly individual refuses to acknowledge and one which frequently leads to an impaired later life. The feeling of time wasted and the intensity of an ego that makes him feel that his business, his family or his friends cannot do without him while he takes the necessary time out to recuperate often make him resistant to a physician's advice to allow ample time for recovery.

(2) *Diminished reaction to injury and disease.* The lessened intensity and the inconspicuousness of symptoms often leads to neglect of illness as well as to difficulty in diagnosis and treatment.

(3) *Diminished reserves and consequently decreased ability to respond to stress.* Decreased work tolerance and increased sensitivity to heat and cold, to overeating, to undereating (starvation), to dehydration, to salt depletion and to disease are noted. A simple example can be observed each summer in the relatively greater number of aged who collapse in the streets. One factor responsible for heat exhaustion in the aged is mental—the habit of carrying on as before. Some physiological responses also are important: (a) deficiency of salt through losses in sweat and inadequate intake with food, (b) inability of the older circulatory system to respond by dilatation of arterioles in order to lose more heat by radiation from the skin and to provide adequate water for sweating (for evaporative cooling purposes) and (c) presence of fewer functioning sweat glands.

It is in these last two aspects of aging that we can offer some constructive advice. Bodily strength, swiftness and exactness of gross motion tend to fail as the years pass. Mills has shown that capacity for physical labor reaches a peak at 20, where it is maintained roughly until 40, and then it begins a slow decline. Robinson, in an extensive comparative study of the capacity of young and old to do moderate or hard work, showed that the aged suffer a diminution in their ability to perform hard work in contrast to an 18 to 30 year old group. However, the aged could do mild and moderate work quite well without much difference in physiological efficiency, but they had to draw on their reserves in order to do so. If the demand increased even slightly, they were unable to accomplish the task. Another illustration can be seen in the

average speed and distance of cross country automobile driving (Table I). Speed showed a slight but definite decrement with age, but a more important decrement was related to distance covered in a single day's driving (500 to 150 miles per day).

Should old people exercise, in view of their diminished capacities and reserves? A quotation from George Cheyne (1725) puts it quite well, "No voluptuous or lazy person, unless he has had an original constitution of brass, was ever a long liver. All those who have lived long and without much pain practice moderation and regularity in exercise and in food." Physical fitness in the aged is important. This state is not the prerogative of the athlete. The aged also may reach a high standard of exercise, physical fitness and health. The aged neither want nor need the physical development of the athlete. They need adequate daily activity of such nature and intensity as to keep the muscles and joints flexible (This essentially is the aim of physicians and therapists in the field of physical medicine). Exertion should not be allowed to reach maximal levels but should be stopped before the stage of breathlessness, palpitation or fatigue. The intensity and duration of exercise should be diminished gradually with advancing age. Carefully adjusted exercise is not only permissible but actually beneficial in many cases of degenerative heart disease, a common disorder in the aged. Too often the aged diminish their usual amount of exercise, due to natural disinclination or erroneous advice from relatives. Eventually they take to their beds for good and go downhill more quickly, both in body and mind, than those who remain active. One of the major benefits of exercise is that it serves to divert the mind into fresh channels and gives an emotional outlet for the cares and worries of daily life. The relief of emotional tension in turn acts favorably upon the physical state of the individual. All this is in addition to providing for social outlets and contacts. Most of the restrictions of activity placed upon older people only make the days seem longer by making them duller. Every individual should carry on full activities so long as he can without undue fatigue or other injury to his constitution. He must learn to taper off with advancing age and stay within his limitations.

"Work steadily, avoid worry, exercise regularly, be moderate in food and drink." This is good advice for middle aged persons as well as for those approaching chronological old age. The nutritional requirements for old people are not known precisely, but they do not appear to differ greatly from those for other groups. There is no doubt that certain physiological changes have occurred both in the gastrointestinal tract and in the local metabolic activity of cells, but how this affects the general nutritional standards of the aged is still controversial. Probably most of

the nutritional problems of the aged are related to (1) undernourishment—both general and in specific substances because of financial difficulties and specific likes and dislikes or (2) overeating, often related to emotional problems and constituting, therefore, a preoccupation with eating. Two quotations attributed to Cormaro in 1550 made during his eighty-third year may be suggestive: "Let him who would eat much, eat

TABLE I

| Age | Speed |
|-----|-------|
| 25 | 44 |
| 35 | 43 |
| 45 | 42 |
| 55 | 39 |
| 65 | 38 |
| 70 | 37 |

little," and "The food you do not eat is of greater benefit than that which you do." Finally, to quote an old Arabian proverb, "The two greatest hazards of an aging man are a good cook and a young wife."

A discussion of physical health should include some consideration of the problem of disease in later years. *There are no specific diseases of the aged.* Practically any illness may occur at any age, though certain diseases do increase in frequency with advancing age. These are chiefly degenerative disorders, but other types of chronic disease occur also. Chronic illness frequently is confused with old age. Symptoms of arthritis, arteriosclerosis, heart disease, diabetes and other conditions, when present in the middle aged and the aged, often are regarded as the inevitable manifestations of aging. This confusion is reflected unfortunately in the attitude not only of the aged but also of friends and relatives. Although chronic diseases by no means are confined to the aged, they become increasingly common with advancing years. Three factors have contributed to this situation: (1) better medical care in diagnosis and treatment of the infectious diseases which previously took so many lives during the early years, (2) better public health measures and facilities and (3) the greater number of aged persons in the population. Chronic and degenerative diseases have become the chief causes of illness and death. Seventy-five years ago they caused only 20 per cent of all deaths, today they are responsible for as high as 70 per cent. They are even more important in regard to morbidity and disability. The average duration of disabling illness for the population at large is five days. In individuals over 60 it is about 30 days. Furthermore, old persons tend to become ill more often. This incidence starts to rise at the age range of 30 to 35 years and points to the need for further research into the causes and prevention of disabling disease and the rehabilitation of disabled persons. The median disability from chronic disease amounts to 18 months.

Chronic diseases may be listed in order of

importance in three different categories: (1) *As causes of death*: heart disease, cancer, arteriosclerosis, hypertension and nephritis; (2) *As causes of illness*: arthritis, heart disease, arteriosclerosis, hypertension, hay fever and asthma; (3) *As causes of disability*: nervous and mental diseases, arthritis, heart disease, tuberculosis, arteriosclerosis and hypertension. Death from senescence, i.e. a gradual wearing out of the structures of the body, is rare. These chronic disorders have certain common characteristics: (1) endogenous causation, resulting from serious insults to the organism, over a long period of time, (2) asymptomatic and (3) slowly progressive course.

These disorders present us with a basic human problem, for we have allowed our people to attain a greater proportion of their theoretical life span. Their longevity has been increased but at the same time we have saddled them with progressive physical difficulties. Can we do something about them? To make life more valuable we must learn as much about managing these diseases as we know about the infectious diseases for pain and disability hold greater dread for the aged than death. More specifically, the problem of disease in the aged lies in a process of aging which causes greater difficulty in the diagnosis of common diseases. For some reason certain disease processes produce unusually mild physical signs in the aged. For example, a severe pneumonia may exist and yet there may be only moderate distress and little fever. It is a masked disease. This emphasizes more strikingly than anything that can be said the necessity for the aged to have a plan for regular health examinations by a competent physician and the importance for the individual to take advantage of current medical skill to a greater degree than in the past, not only during periods of illness but also as a preventive measure to forestall serious developments.

Aging is not only a problem of longevity but it is also a problem of how the individual adapts to longevity. To age successfully one must prepare for it in early life. Previously people have grown old without the thought of how to grow old. To enjoy age properly we must attain, or rather maintain, the same ratio of successes to attempts as in some earlier age. This may and does require the ability to switch over from physical to mental activities, because with age there are fewer and fewer important physical things to do. In contrast to the capacity for physical labor, which characteristically declines, the capacity for intellectual work is on a relative plateau. As mental functions become more complex the physical decrement with advancing age becomes less significant, so that in the highest processes of interpretation and imagination unrestricted by limitation of speed and amount measurable intellectual performance continues

with little if any decrement. The secret of adequacy in old age is the opportunity for renewed activity, not the prospect of going from one rocking chair to another. Strong studied the change of interests with age and noted a definite shift from roles of participation to spectator activities. Significantly, there was little change of interests after 55 to 65 years. This suggests that new interests must be developed by middle age and that it never is too early to prepare for old age. Freid found a tendency for her subjects to give little prior thought to post-retirement problems and then to react to retirement with depression and illness.

Proper preparation for retirement can result in personal satisfactions which could not be realized during years of regular employment. It may provide relief from the emotional tension of prestige competition. Also, an individual may be able to make better friends after retirement with people from other groups than those with whom he has been competing, and good friends are especially important to the elderly. For economic reasons a lower standard of living usually must be accepted during the retirement period, and an adjustment to this level must be made before retirement begins. The person who is fully prepared to retire should make a clean break so that there will be no "living in the past." It is important to retire before there is complete breakdown in health and energy. For this reason there should be no arbitrary retirement age without permitting and encouraging earlier retirement if desired. Dr. Hadley, a former president of Yale, had this to say regarding retirement, "I knew it was time for me to retire. When new propositions came up, I could see both sides and could see that the bad just about balanced the good. That showed that I was too old. When I was younger I could also see both sides but was prepared to put through the new proposal hoping to keep the good and discard the bad."

Too many people discover that they are old when they feel they have nothing more for which to strive. New interests must be developed deliberately. One must not wait and hope for something to do. These interests must be within the capacity of the individual and must have positive values in order not to develop frustrations. There was a gentleman of advanced years in New England who spent his time profitably both to himself and to his community by serving on juries up and down Cape Cod. A very common problem is that of the middle-aged woman who as a grandmother might be thought to have thereby an "interest" for the ensuing years, but in reality baby sitting and tending by her is only a repetition of her own period of motherhood and a recall of the trials from which she had just begun to enjoy her freedom. A grandchild gives pleasure but he also signifies advancing age for

his grandmother, and neither will benefit from complete dependence upon the other. Consequently, interest in a grandchild needs to be counterbalanced by other creative interests.

Retirement is a special psychological hazard for the person who has a tendency to "social isolation" and has made social contact and adjustment only through employment groups. Such an old person as this probably would do better to remain in his community where he has some friendships, however tenuous, rather than to move to a new community upon retirement. This, however, is an individual matter, for some old people benefit from a change of community. Many have found happiness in going to live among other retired persons in private, well-run institutions or small towns. Inhabitants of small towns or villages customarily give more response and respect to the aged than do those of urban areas. Some individuals gain by "following the sun circuit," and a trailer offers a multitude of satisfactions to the right type of aged individual. Whether or not a move is made upon retirement is chiefly dependent upon the individual's interests and mental state, for it is mental outlook more than anything else which will determine whether old age is to be a satisfying experience.

Fear of aging, rather than the aging process itself, often induces mental deterioration. This fear is not without basis. Our past performance in the treatment of mental illness in the aged has been founded upon the false premise that when an old person becomes mentally ill he is beyond treatment and recovery. Now even the most complicated, expensive and lengthy type of psychiatric treatment may be prescribed rationally for patients over 50 as well as those in their youth. Old age no longer can be used as an excuse for inability to adjust to a new situation. Greater difficulty may be experienced in making adjustments than before, but this is not so much a result of the aging process as it is simply a continuation of the pattern of behavior which the individual developed much earlier in life.

The older person may find himself forgetting easily, repeating conversations and dwelling on the past, but he should not let these normal mental changes worry him. Neither should they cause younger friends and relatives to think that Grandpa is "losing his mind." These symptoms of mental change are relatively common among old people and do not necessarily indicate the onset of mental breakdown, though the same symptoms in a young person *are* cause for worry. They are part of the aging process in many persons and, like the physical changes, may commence at 50 or 100.

There are also, of course, certain acute mental disorders of the aged, some of them associated with the common physiological disorders of the

aged, and others which may appear at any age. Yet even these no longer are considered hopeless simply because the patient is in his 60's or beyond. The old man of 75 who becomes disoriented and psychotic after a fall no longer is "put away" immediately as "insane," nor should he be; surely he deserves as much diagnostic attention and treatment as a young man. It is now recognized that many mental disorders of the aged are reversible, and much can be done through early recognition and proper treatment. Prevention involves the building of a proper attitude toward old age, not only by the individual for his own benefit but also through community mental hygiene programs.

Just as the physical disorders and diseases of old age are gaining more general attention as a problem of our culture, so are the mental disorders. Although the number of old people being admitted to our mental institutions has increased in the last decade, we must remember that the aged population has also increased remarkably in numbers. As the physical organism loses its elasticity, with an increasing tendency to fracture, the personality also loses its ability to adjust quickly. Again, however, this change is relative, and mental adjustment to old age is largely an individual matter. A personality which could adjust easily in youth may be expected to adjust successfully during later years. On the other hand, the normal changes or the diseases of old age will constitute psychological hazards for anyone who always has been hypochondriac, suspicious and hyperactive. The happily busy middle-aged person can learn how to live a happy, useful old age. The elderly who are fearful and unhappy about the years ahead can be helped to adjustment by understanding relatives and friends, physicians, ministers and social workers. The essentials adding up to a happy old age, while they include financial security and good health, are primarily those related to a condition of **USEFULNESS**. To be useful the aged must strive to (1) cultivate a wide range of interests, (2) maintain a willingness to learn, (3) accept serenely change and the implications of change, and (4) participate actively in the life of the community.

SUMMARY

The outstanding need in evaluating the old age problem, as in other contemporary medical social problems, is for factual guidance. Primarily, more information is required in relation to the annual change in capacity for work, for leadership and for judgment. The problems are generally specific and yet complex. If society demands (as it should) that a person of 60 years or more continue to do his part in the community, it must reassess the validity of its traditional assumptions as to the proper cultural load for such an individual.

REMARKS ON SUDDEN DEATH*

WILLIAM B. BEAN, M.D.**

IOWA CITY

THE VERY WORD DEATH is repugnant to physician and layman alike, and all our fertile inventiveness has been used to find linguistic by-passes to avoid mentioning death outright. The plain fact of death is planted squarely before us to contemplate. Living men can form no intimate conception of death, the one fact which the testimony of experience brings nearest philosophic certainty. Sudden death, especially, has been feared and the collective feelings of immemorial time are epitomized in the Litany which begs for deliverance from it. In spite of its unpopularity the problem of sudden death is one which has intrigued me for a long time. It has been observed and studied but little. One might think it had merely academic interest. But today, methods of resuscitation have been perfected so that occasionally it is possible to restore heart beat and life to a heart which has stopped beating in a person who is apparently dead. The topic has utility if we can find prodromes. It has more than just academic interest.

The oldest recording we have of sudden death probably is in the Homeric legends. There are several accounts of heroes who were struck down unexpectedly, and who died. It was the belief of those who described what happened that they had been assailed by the Olympian dieties, the thunderbolt of Zeus, for some reason of revenge or disobedience or jealousy. This peculiar, unanticipated form of dying was attributed to the gods on Olympus. In *Plutarch's Lives* there is an account of someone questioning Julius Caesar concerning the most desirable manner of dying, and he says that form which is not anticipated, namely, sudden death, is most desirable. In the Middle Ages there was little concern with the form and manner of dying, since death generally was looked upon as a release and an opportunity to enter another world which was thought to be better. So it was only with the rise of pathologic anatomy that our thoughts about sudden death became better crystallized.

Sudden death should be studied from the point of view of physiology rather than pathologic anatomy, because, as a general rule, what one sees in a rather complete postmortem examination of a person who dies suddenly, may not be at all different from what one sees in a person of similar age and status who is killed accidentally. In other words, although we find structures which are diseased, we know that with similar derangement life can go on in other people. Death is

really a cessation of physiologic function rather than an anatomical state.

It is appropriate to view the phenomenon of dying suddenly by dividing it up into several categories, which probably have different mechanisms:

I. There is a form of instant death in which, if you happen to be observing a victim, you find that within *seconds* all manifestations of life except warmth disappear. The heartbeat stops, consciousness fails, respiration stops, all in one fell blow. There is no sequence of deterioration in which one phase of vital activity falls out before another. That has been called instant "physiologic" death or syncopal death.^{1,2} It is death which is in all regards analogous to syncope except that it is a form of syncope from which there is no recovery.

II. There is a more common form of dying in which the lethal scene is measured in *minutes*. Ordinarily it lasts from five to ten or 15 minutes, perhaps as long as 30 minutes. The characteristic of this type of dying is that the heart stops beating while other vital signs persist. It begins with ventricular standstill or its physiologic counterpart, ventricular fibrillation, wherein there is no effective propulsion of blood to the organs especially the brain. This kind of sudden death is commonly seen; and, of course, when it comes unexpectedly, its mechanisms often are not clearly observed.

III. Then there is a rather heterogeneous and miscellaneous hodgepodge that occurs when death is not so much sudden in time of the lethal scene, as unexpected and unanticipated. As a general rule, cerebral hemorrhage and thrombosis, pulmonary embolus, shock and other forms of unexpected death fall into this broad category, which has no unity except that death is unanticipated.

If we had some way of predicting ahead of time which people are liable to this manner of dying, or sudden and instant death, we might be able to apply a tardy prophylaxis and, in some instances at least, be prepared to resuscitate a heart which had stopped. The history given by a patient liable to one or another of these types of death, it is of much interest. Those patients who have angina pectoris and coronary artery disease, or myocardial infarction, who have a real risk of instant death have a history of a high frequency of syncopal attacks. We do not always look for it, so frequently it is not recorded in casual notes. But if one searches carefully in connection with the onset of attacks of angina and with the final demoralization of the circulation which may take place, one finds that frequently syncopal attacks are fairly common. In a group of 300 cases of myocardial infarction proved at autopsy and then studied in retrospect to see what had happened to them during life, it was found that 29 died instantly.¹ Of the 29

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

** Professor and Head of the Department of Internal Medicine, College of Medicine, State University of Iowa, Iowa City.

patients 17 had syncopal attacks quite commonly during the latter period of life, at a time when their heart was beginning to give trouble. This was much higher than the incidence of congestive failure, hypertension or anginal pain. Thus, in the group with coronary artery disease there was a peculiar liability to instant "physiologic" death among people who had a tendency to faint.

On the contrary, in aortic stenosis in a series of 107 patients studied in the same fashion by Kumpe and myself,³ there was also the liability to sudden death, but the manifestations of the dying scene were quite different. Patients generally survived a matter of minutes. Death began with a sense of constriction in the chest, then dyspnea, air hunger, the development of cyanosis, often profuse sweating, then the loss of consciousness, then either convulsive movements or grand mal attack. Finally, after respiration had become a struggle for 10 or 15 minutes, it would become attenuated, gasps would become spaced farther apart, and respiratory failure would occur. In aortic stenosis, syncope, dizziness, sometimes focal neurological signs are commonplace. But we found that, in contradistinction to the group with coronary artery disease, in aortic stenosis syncopal attacks had been only half as common in the 22 who died in five to 30 minutes as in the entire group where death occurred in a variety of ways but not suddenly.

In aortic stenosis the mechanism of dying was that of asystole, either ventricular fibrillation, or ventricular standstill. The heart stopped; and after the heart stopped, circulation to the brain was reduced. Then violent air hunger developed as a reaction, and vigorous efforts at compensatory restoration of vital factors went on. Breathing was vigorous until anoxia and ischemia finally caused the respiratory center to decline in activity and eventually stop.

There are a great many forms of unexpected dying associated with various forms of medical and surgical manipulation. Stimulation of various serous cavities in the body, the peritoneum, pericardium and the pleura, even by a needle, may give rise to a reflex syncopal attack which may be fatal. Similarly, in various operative procedures, especially those that deal with vessels, particularly with the carotid and the carotid sinus plexus, and those upon the nerves, reflex cardiac standstill may bring a sudden halt to the procedure.

Such occurrences are totally unpredictable, but one must be aware of the hazard. It is my impression that in certain instances where death has occurred in this totally unexpected way after instrumentation or putting in a needle, there has been an undue propensity of the individual who so dies, to have a history of fainting. We know little really about the process and mechanism of the initiating features of syncope or fainting. We know that they may follow reduction of blood

flow to the vital cerebral centers which have to do with consciousness. It is extremely important to evaluate the history of any person who is going to be subjected to instrumentation or surgery, to see if such a tendency toward fainting occurs. Our fragmentary evidence indicates that such persons have a greater risk of such lethal accidents than the population at large.

The topic of sudden death will never be clearly understood unless it is widely studied, and for that reason an appeal is made to those of you who are seeing patients all the time. I had occasion, not long ago, to discuss this subject with a number of eminent clinicians in the country, internists who were the top leaders in the field. After talking to seven of them, not one of whom had ever witnessed to his recollection an episode of sudden death, I became discouraged, and thought than an appeal would have to be directed more widely, and so I appeal to you physicians in general practice to send me any observations you are able to make on sudden death.

Actually, this is one of the few instances where physicians in hospitals and in academic medicine, by virtue of being on and near the wards a great part of the time have an opportunity to witness episodes of sudden death that others may not share. This is particularly true of those in the intern and residency periods, when their stay with patients may approach 24 hours a day.

In such conditions as cardiac arrhythmias, Stokes-Adams attacks, sensitivity of the carotid sinus, syncope, unconsciousness and convulsions, the hazard of abrupt dying is part of the clinical syndrome. We need to go further and study the entire mechanism in detail. The only way this can be done (it is not possibly a laboratory procedure) is by having enough physicians interested so that when the embarrassing occasion presents itself they will not be overwhelmed by the necessity for some symbolic and ritualistic action; or at least, while they are intervening, make sensible observations so that the mechanism of dying may be learned and understood. It is only after information is accumulated that we can get details of the pathologic mechanisms and physiologic dysfunctions that produce this risk of sudden death.

Where sudden death is a recognized hazard, in coronary artery disease, angina pectoris aortic stenosis and in Adams-Stokes reactions, we are confronted with the problem of what to tell the patient or the family about the hazard of sudden death. People who have minor heart disease, or who have major heart symptoms without much disease, can be made total invalids by the constant forboding that goes with knowing or suspecting that something is wrong with their heart. It is very unwise to tell a person that he has perhaps ten times the risk of sudden death that some other person has, even if it be a fact, because, whether or not he does die suddenly,

his life will be made miserable during his remaining years if he is forever living under the shadow—the Damocles sword of sudden death. It is important that the family be made aware of this hazard, however, if they are reasonable and can be expected not to worry themselves or to worry the patient to death with the threat of dying suddenly.

SUMMARY

In summary, sudden death is a phenomenon which can occur in three ways:

(1) the instant “physiologic” death, which is an irrevocable syncope;

(2) death associated with ventricular fibrillation or asystole, characterized by violent respiratory effort, and then gradual respiratory failure over a period of many minutes and finally

(3) a group of nondescript cases in which death occurs as an unexpected event, which takes hours from the time of the beginning of symptoms which mark the introduction of the lethal scene to the final and terminal stage of the picture.

It is necessary to study the manifestations of sudden death. It is extremely important that we be aware of procedures of resuscitation, ranging from injection of drugs to opening the chest and massaging the heart. If we recognize the risk of sudden death, and its different mechanisms under different circumstances, it will be possible, at least in an occasional instance, to intervene and to restore to life someone who has apparently died.

BIBLIOGRAPHY

1. Bean, William B.: Infarction of the heart. Clinical course and morphological findings. *Ann. Int. Med.*, **12**:71-94 (July) 1938.
2. Weiss, Soma: Instantaneous “physiologic” death. *New England Med. J.*, **223**:793-797 (Nov. 14) 1940.
3. Kumpe, Carl W.; and Bean, William B.: Aortic stenosis; study of the clinical and pathologic aspects of 107 proved cases. *Medicine*, **27**:139-185 (May) 1948.

RECENT DEVELOPMENTS IN OCULAR THERAPEUTICS*

NICHOLAS G. DOUVAS, M.D.**

IOWA CITY

THE MOST significant recent advances in ocular therapy have resulted from the use of endocrine products and chemotherapeutic agents. The ophthalmic literature concerning the use of these substances is voluminous, at times to the point of becoming confusing. An attempt to evaluate their usefulness to us in the practice of ophthalmology will be made.

ACTH and cortisone represent only a small part of the body's complicated endocrine system. Thus far, ACTH and cortisone have been shown to be effective as broad spectrum ocular thera-

peutic agents. This has also stimulated interest in the use of testosterone and esotrogens in the treatment of ocular disorders. This latter study is now being carried out by Olson and his co-workers.¹

Rational ACTH and cortisone therapy can only be carried out when one understands the physiologic relationship of these compounds to each other and to the endocrine system as a whole. The anterior lobe of the pituitary, which is at least partially regulated by the hypothalamus through some unidentified hormone, secretes several hormones which activate the endocrine system of the body. One of these hormones is the adrenocorticotrophic hormone; most commonly abbreviated as ACTH. ACTH has a stimulating effect on the adrenal cortex that results in the secretion of about 30 cortico-steroid hormones with far reaching physiologic effects.

The adrenal cortico-steroids are classified into three main groups according to their primary physiologic effect. Group 1, containing cortisone or compound E, primarily affects carbohydrate and protein metabolism in addition to increasing resistance to certain conditions of physiologic stress. Cortisone has a weak effect on electrolyte and water balance. Group 2 including desoxycorticosterone is chiefly concerned with electrolyte and water balance and has only a weak effect as regards protein and carbohydrate metabolism. Group 3 consists of the sex hormones that are concerned with secondary sex characteristics.

When ACTH is administered clinically, an increased secretion of all three adrenal cortico-steroid groups results with all their physiologic effects; whereas cortisone administration merely acts as substitution therapy replacing adrenal cortical function with increased physiologic effects limited to those of Group one. ACTH is ineffective if the adrenal cortex is atrophied as in Addison's disease. ACTH and cortisone both have an inhibitory effect on the pituitary gland; whereas they differ in their effect on the adrenal gland in that cortisone also depresses the normal adrenal cortex while ACTH stimulates the adrenal cortex to hypertrophy.

Although ACTH and cortisone seem to have nearly the same effect on most disease processes, Woods² believes that important practical differences exist. He noted an earlier clinical effect from ACTH as compared to cortisone. This was attributed to a delay in the mobilization of the relatively insoluble cortisone from the injection site. With both drugs withdrawal symptoms and/or a “rebounding” of the inflammatory process may occur when the drug is discontinued. Although this is usually not serious, it may be avoided, for the most part, by gradually reducing the dose during the last few days of treatment. This “rebounding” of the inflammatory process is more prominent with cortisone therapy because it depresses the adrenal cortex as well as

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

** From the Department of Ophthalmology, College of Medicine, State University of Iowa, Iowa City.

DOSAGE & ADMINISTRATIVE METHOD TABLE

I

CORTISONE

ACTH

TOPICAL

SUBCONJUNCTIVAL

RETROBULBAR

INTRAMUSCULAR
OR ORAL

INTRAMUSCULAR

1:4 dilution in
normal saline
(5 mg./cc.)
gtts. q hour

0.05 cc. (1.25 mg.)
daily for 3 days;
2 day rest period;
repeat above 3 day
course as needed

50 mg. in 2 cc. with
0.5 cc. 4% Procaine

300 mg. 1st day
200 mg. 2nd day
100 mg. q day for
7 to 14 days
(Scheie uses only
100 mg. q day for
adults and infants
depending on thera-
peutic response.)

20-50 mg. q 6 hours
for adults
10 mg. q 6 hours
for children
1 mg. q 6 hours
with gradual
increase to
10 mg. q 6 hours
for infants (Scheie)
Treatment 10-49 days
with gradual decrease
in dosage. (Woods)

Effective in anterior
segment diseases

Not effective in
anterior or posterior
segment disease (Leopold)

Effective in anterior and
posterior segment diseases

Topical administration
more effective than
subconjunctival in-
jection of 5 to 25 mg.
(Mosher)

May be effective where
topical therapy failed
(Leopold)

May be effective where both
topical and subconjunctival
therapy failed (Steffensen;
Leopold)

Topical and subconjunctival
therapy equally effective
(Thygeson)

Cortisone ophthalmic
ointment will be
available soon.

the pituitary and the period of lag is longer before normal gland function is restored following the cessation of therapy.²

Minor differences in drug side effects exist. They are as follows:

1. Pulmonary edema and water retention . . . more common with ACTH.
2. Acneform and pustular skin eruptions . . . more common with ACTH.
3. Cushing syndrome-like manifestations (hirsutism; pigmented striae; abnormal fat distribution; rounded facial contours) . . . more common with ACTH.
4. Hypertension (rare) . . . with both ACTH and cortisone.
5. Muscular weakness . . . with both ACTH and cortisone.
6. Latent diabetes unmasked . . . with both ACTH and cortisone.
7. Emotional changes—usually euphoria (depression may occur with drug withdrawal) . . with both ACTH and cortisone.

It is no longer felt that diabetes is produced by these hormones. A relative insulin-resistant hyperglycemia merely results from the increased formation of glucose and glycogen from noncarbohydrate sources. The pancreatic reserve of normal persons is adequate to handle the increased insulin resistant hyperglycemia which serves to unmask the inadequate pancreatic reserve of the latent diabetic.³

Contraindications and precautions with ACTH-cortisone therapy are as follows:

1. Psychotic states and psychoneurosis.
2. Active tuberculosis—(prevents walling off of the lesion).
3. Vascular hypertension and states of diminished cardiac reserve.
4. Chronic nephritis.
5. Diabetes.
6. Masking symptoms of an acute infection while the process actually progresses.⁴
- Indicated laboratory studies during systemic ACTH-cortisone treatment are:
1. Fasting blood sugar and urinary sugar before and during treatment.
2. Daily weight to detect fluid retention.
3. Daily blood pressures.
4. Blood eosinophile counts—drop in count is index of proper treatment response.

During systemic ACTH-cortisone treatment a low sodium-chloride and high potassium intake is suggested in order to combat water retention and muscular weakness respectively.

Cortisone and ACTH dosages and their method of administration are to be found in Table I.

In rabbit eye penetration studies, Leopold⁶ found that subconjunctival injection produced a slightly better penetration than drop therapy with cortisone acetate suspension in saline. However cortisone acetate diluted 1 to 4 in zephiran 1:3000 allowed equal penetration values. He attributed his superior results in clinical cases with subconjunctival administration over topical therapy with cortisone acetate suspension in saline

to the apparent greater intra-ocular penetration following subconjunctival injections.

Although ACTH-cortisone therapy appears to be most effective in combating the inflammatory manifestations of the hypersensitive state, no evidence indicates that the antigen-antibody reaction is inhibited. The action of ACTH and cortisone is limited to the blocking of the inflammatory and exudative phases of allergic reaction. This blocking appears to be non-specific in that it blocks non-allergic inflammation due to irritants such as jequirty and glycerin. The action seems to be on mesenchymal cells—the connective tissue of the vascular and lymphatic systems. This serves to explain the above blocking and the beneficial effect on collagenous diseases.⁹

Cortisone will delay corneal epithelial and stromal healing with an inhibition of granulation tissue formation. According to Spain et al¹⁰ cortisone does not interfere with fibroblastic tissue already formed. It then appears that cortisone should not be immediately used after intra-ocular surgery but may be used after the wound has had a few days in which to heal.⁶

Experimental studies of von Sallman⁴ indicate that these drugs are effective in promoting the absorption of red blood cells from the vitreous.

ACTH-cortisone therapy seems to be the most effective in acute lesions which tend to run a self-limited course. This latter factor often makes evaluation of therapeutic success difficult. It must be remembered that the underlying allergic state is unaffected in those cases of an allergic nature and that prompt recurrence may develop when treatment is stopped unless the etiologic agent can be eliminated.

The reported results of a number of authors

from various parts of the country are tabulated (Table II) insofar as possible into three groups: Effective, questionable, and ineffective. The number of references after each disease process in a given column serves as an index to the apparent degree of agreement between the various reports. Ruled lines serve to indicate where disease entities appear in more than one column.

Our results at the State University of Iowa are in general agreement with the less enthusiastic reports that have appeared. I might add, however, that many of the cases have taken on features of chronicity by the time they have reached us and that in these cases the results are not so dramatic as we would like to see. Moreover, we have treated a number of cases of iridocyclitis topically with cortisone drops in which the eye became relatively white shortly after treatment was started. This whiteness was misleading in that slit lamp examination revealed a heavy aqueous flare and a "frozen" chamber that persisted for a few days. This clinical observation is in part substantiated by Woods et al² experimental findings of increased aqueous protein content in cortisone treated eyes as compared with control eyes.

With the discovery of new antibiotic substances the treatment of eye diseases has changed considerably during recent years. One of the new broad spectrum antibiotics is terramycin.

Stability studies indicate that terramycin ophthalmic solution is more stable than the ophthalmic aureomycin solution. Terramycin solution remained stable for five days at room temperature but had lost 50 per cent of the effectiveness of fresh preparations at the end of fifteen days; whereas aureomycin solution kept at room temperature had lost 50 per cent of its effectiveness

TABLE I
SUMMARY—SYSTEMIC ACTH OR CORTISONE USE

| Effective | Questionable | Ineffective |
|---|------------------------------------|--|
| Vernal Conjunctivitis (1, 12, 4) | Luetic Interstitial Keratitis; (1) | Non Luetic Interstitial Keratitis (Cogan |
| TBC? Sclerokeratitis (9) | 2 of 3 improved (3) | Syn) (9) |
| Herpes Zoster (1) | Retrolental Fibroplasia | Corneal Dystrophy (13) |
| Acne Rosacea Keratoconjunctivitis (1) | Retinitis Pigmentosa (1); (13) | Juvenile Coats Disease (9) |
| Central Serous Retinopathy; 2 cases (9) | | Angioid Streaks (1) |
| Angiospastic Retinopathy; 3 cases (11) | | Angiospastic Retinopathy; 2 cases (3) |
| Retinitis Centralis, Inflammatory; | | |
| 3 cases (1) | | |
| Optic Neuritis; 2 of 3 cases (1) | Optic & Retrobulbar Neuritis; (3) | Optic and Retrobulbar Neuritis (11) (9) |
| | 1 of 3 improved (4) | |
| Endophthalmitis Phacoanaphylactica (3) | | |
| Uveitis; 5 of 9 cases (4) | | Chronic Diffuse Uveitis (3) |
| Acute Diffuse Non-granulomatous Uveitis (3) | | |
| Iridocyclitis; 12 of 15 cases (4) | Tay-Sachs Disease (3) | Chronic Still's Disease (3) |
| Acute Iridocyclitis; 12 of 13 cases (1) | Keratoplasty (3) | Central Chorioretinitis (1) |
| Acute Anterior Non-granulomatous | Anterior Granulomatous Scleritis | Senile Macular Degeneration (11) |
| Uveitis; 11 of 13 cases (11); (12) | (1) | Kuhnt-Junius Disease (11, 1, 4) |
| Acute Anterior Granulomatous Uveitis; | | Primary Glaucoma (1, 15) |
| 9 of 10 cases (11) | | Optic Atrophy (1) |
| Chronic Anterior Non-granulomatous | | Acute Harada's Disease (3) |
| Uveitis; 2 of 8 cases (11); (13) | | Chronic Orbital Disease (4) |
| Chronic Anterior Granulomatous | | |
| Uveitis; 2 of 6 cases (11); | | |
| 2 of 5 cases (1) | Chronic Choroiditis and Posterior | |
| TBC Uveitis, secondary glaucoma (9) | Uveitis; 5 of 11 improved but | |
| Acute Choroiditis & Posterior Uveitis; | incomplete in 3 cases (11) | |
| 15 of 17 cases (11) | | |
| Sympathetic Ophthalmia (9) | Sympathetic Ophthalmia; 3 of 5 | Late Sympathetic Ophthalmia; 4 cases |
| | improved; 1 relapse (11) | (4) |
| Malignant Exophthalmos (14) | | Thyrotoxic Exophthalmos (3) |

TABLE II
SUMMARY—LOCAL CORTISONE USE

| Effective | Questionable | Ineffective |
|---|--|---|
| Non-specific Keratitis (8, 6, 3, 5, 4) | Ocular Pemphigus (9) | Ocular Pemphigus (6, 11) |
| Phlyctenular Keratoconjunctivitis (8, 7, 3, 11, 4) | | Parenchymatous Keratitis (11) |
| Tuberculous Keratitis (8) | | Mustard Gas Keratitis (3) |
| Sclerosing Keratitis (6, 3, 5, 11, 9) | | Rodent Corneal Ulcer (5) |
| Acne Rosacea Keratitis (8, 11) | | Vogt-Koyangi Syndrome (6, 3) |
| Acute Marginal Corneal Ulcer (8, 6, 11, 5) | | Harada's Disease (6, 3) |
| Marginal Keratitis (3) | | Retrolbulbar Neuritis (6) |
| Post-operative Striate Keratitis (8) | | Eales's Disease (5) |
| Non-specific Keratitis Profunda (8) | Keratitis Profunda (3) | Retrolental Fibroplasia (11) |
| Non Luetic Interstitial Keratitis (6, 11) | | |
| Luetic Interstitial Keratitis (4) | Luetic Interstitial Keratitis (3) | Luetic Interstitial Keratitis (6) |
| Bullous Keratitis (5) | | Juvenile and Senile Macular Degeneration (6, 11) |
| Relapsing Keratitis (5) | | Dendritic Keratitis (8) |
| Dendritic Corneal Ulcer (11) | Dendritic Keratitis (6) | Central Vein Thrombosis with Absolute Glaucoma (11) |
| Herpetic Deep Keratitis (4) | Keratitis Metaherpetica (3) | Corneal Dystrophy (6) |
| Non-specific Corneal Ulcer (11, 4) | | Fuch's Epithelial Dystrophy (8) |
| Blood Staining of Cornea (11) | Corneal Dystrophy; 1 out of 5 cases—definitely improved (11) | Lipoid Corneal Degeneration (4) |
| Lime Burn (6, 9) | Keratoplasty (3) | Trophic Corneal Ulceration (8) |
| Blepharitis (6) | Keratouveitis (3) | |
| Blepharoconjunctivitis—allergic (3) | | |
| Drug Sensitivity—atropine, etc. (6, 5, 9) | | |
| Chronic Keratoconjunctivitis—allergic (3) | | |
| Allergic Conjunctivitis (11) | | Vernal Conjunctivitis (8) |
| Vernal Conjunctivitis (6, 5, 9, 4) | | |
| Atypical Vernal Conjunctivitis (3) | | Episcleritis (4) |
| Episcleritis (6, 3, 11) | | Chronic Stevens-Johnson Disease (3) |
| Retained Lens Material (3, 11) | | Erythema Multiforme (6) |
| Endophthalmitis Phacoanaphylactica (3) | | |
| Herpes Zoster (6, 11) | | |
| Uveitis with and without | | |
| Secondary Glaucoma (6, 8, 9) | | Iridocyclitis; 8 of 13 cases (4) |
| Acute Iritis; 4 of 6 cases (8); 4 of 6 cases (5) | | 1/4 of Uveitis Cases (5) |
| Acute Anterior Non-granulomatous Uveitis; 12 of 13 cases (11); (3, 9) | | Chronic Posterior Granulomatous Uveitis (3) |
| Chronic Anterior Non-granulomatous Uveitis; 11 of 15 cases (11) | | Chorioretinitis (5) |
| Chronic Anterior Granulomatous Uveitis; 4 of 8 cases (11); Sarcoid Uveitis (8, 5) | | Sarcoid Uveitis (6) |
| Sympathetic Ophthalmia (9) | Sympathetic Ophthalmia (5) | |

by the end of the sixth day. A terramycin solution under refrigeration for 50 days was just as effective as the fresh preparations; whereas 50 day old refrigerated aureomycin was 50 per cent as effective as the fresh aureomycin preparation. After one week the drug solutions kept at room temperature became darker in color and more acid; at 25 days the pH was 7.5.¹⁶

In *in vitro* experiments, terramycin compared favorably with the other antibiotic and chemotherapeutic agents studied. Individual comparative studies indicated that penicillin was more effective than terramycin, streptomycin, aureomycin, and Chloromycetin, which must be classed as being equally effective against the hemolytic *Staphylococcus aureus* strains studied. Moreover, the above agents appeared to be more effective than bacitracin, polymyxin B, Gantrisin, sulfacetamide, Propion and zephiran against this same organism. Penicillin was also the only drug superior to terramycin in the studies with alpha hemolytic streptococcus, *Diplococcus pneumoniae*, and other miscellaneous Gram-positive organisms. Chloromycetin and streptomycin appeared, in general, to be more effective than terramycin and the other drugs against the Gram-negative organisms tested. Terramycin failed to protect mice inoculated with the virus of herpes simplex.

Terramycin and aureomycin penetrated into the rabbit aqueous humor following a corneal bath only after the corneal epithelium was abraded. Penetration approximated 28 mcg./cc.

for terramycin and 8 mcg./cc. for aureomycin under the conditions used. Following intravenous administration, 3 mcg./cc. of terramycin appeared to be present in the aqueous; whereas no aureomycin penetration could be detected. In terms of *in vitro* bacterial sensitivities, it would appear that adequate aqueous concentrations of terramycin can be expected clinically following local instillation in cases of corneal ulceration where the epithelial barrier is not present.

Clinically, terramycin was well tolerated and effective in the treatment of conjunctivitis and corneal ulcerations with a bacterial etiology. It was not effective in the treatment of acute follicular conjunctivitis, type Beal and dendritic keratitis.

BIBLIOGRAPHY

1. Olson, J. A.; Steffensen, E. H.; Smith, R. W.; Margulis, R. R.; and Whitney, E. L.: Use of adrenocorticotrophic hormone and cortisone in ocular disease. Arch. Ophth., 45:274-300 (March) 1951.
2. Woods, A. C.; and Wood, R. M.: Paper given at Wilmer Resident's Meeting. (April) 1951.
3. Scheie, H. G.; Tyner, G. S.; Buesseler, J. A.; and Alfano, J. E.: Adrenocorticotrophic hormone (ACTH) and cortisone in ophthalmology. Arch. Ophth., 45:301-316 (March) 1951.
4. von Sallman, L.: Paper on Cortisone given at University of Iowa Symposium on External Disease. (March) 1951.
5. Mosher, H. A.: Local use of cortisone in ophthalmic diseases. Arch. Ophth., 45:317-319 (March) 1951.
6. Leopold, I. H.; Purnell, J. E.; Cannon, E. J.; Steinmetz, C. G.; and McDonald, P. R.: Local and systemic cortisone in ocular disease. Am. J. Ophth., 34:361-371 (March) 1951.
7. Thygeson, P.; and Fritz, M. H.: Cortisone in phlyctenular keratoconjunctivitis. Am. J. Ophth., 34:357-360 (March) 1951.
8. Steffensen, E. H.; Wishbow, A. J.; Nagle, F. O.; Smith, R. W.; and Whitney, E. L.: Topical cortisone in the treat-

ment of anterior-segment eye disease. *Am. J. Ophth.*, **34**: 345-356 (March) 1951.

9. Woods, A. C.: Clinical and experimental observation on use of ACTH and cortisone in ocular inflammatory disease. *Am. J. Ophth.*, **33**:1325-1349 (September) 1950.

10. Spain, D. M.; Molomut, N.; and Haber, A.: Biological studies on cortisone in mice. *Science*, **112**:335-337 (Sept. 22) 1950.

11. Fitzgerald, J. R.; Bellows, J. G.; Donegan, J. M.; Gamble, R. C.; Krause, A. C.; Mann, W. A.; Pearlman, M. D.; and Zekman, T. N.: Early clinical results of ACTH and cortisone treatment of ocular diseases. *Arch. Ophth.*, **45**: 320-333 (March) 1951.

12. Henderson, J. W.; and Hollenhorst, R. W.: Effects of cortisone on certain ophthalmic diseases. *Proc. Staff Meet., Mayo Clinic*, **25**:490-491 (Aug. 16) 1950.

13. Gordon, D. M.; and McLean, J. M.: ACTH in ophthalmologic conditions. *J.A.M.A.*, **143**:1271-1276 (April 22) 1950.

14. Cole, S. L.: In Discussion to Olson (1.). *Arch. Ophth.*, **45**:299-303 (March) 1951.

15. Blake, E. M.; Fasanella, R. M.; and Wong, A. S.: Effect of ACTH in glaucoma. *Am. J. Ophth.*, **33**:1231-1235 (August) 1950.

16. Douvas, N. G.; Featherstone, R. M.; and Braley, A. E.: Role of terramycin in ophthalmology. *Arch. Ophth.*, **46**:57-68 (July) 1951.

State University of Iowa College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

December 19, 1951

SUMMARY OF CLINICAL RECORD

A 32 YEAR OLD white male first entered University Hospitals in July, 1923, requesting treatment for two penile lesions. Past medical history revealed measles in childhood complicated by orchitis on the left with subsequent atrophy of the left testis. He had gonorrhea at the age of 17. On admission material from the scrotal lesion was found to contain spirochetes on dark field examination; that from the dorsally-situated lesion did not. The blood Wasserman was strongly positive. The patient was given a single intravenous injection of salvarsan and an intramuscular injection of gray oil. This treatment was repeated two weeks later.

In September, 1923, the patient was readmitted to the hospital and given six intravenous injections of neosalvarsan and six intramuscular injections of gray oil over a period of five weeks. He was then discharged after being instructed in the technic of mercury rub which was to be followed by schedule—six days a week, three weeks a month.

The patient returned to the hospital in May, 1924, and again in February, 1925, for additional courses of salvarsan. He stated that he had continued the mercury rub treatment faithfully between admissions.

The patient was not seen at University Hospitals again until September, 1945. He stated that following his last visit in 1925, he had not continued treatment regularly as directed. However, in 1932, he had had a blood test, and this was reported as negative for syphilis. When examined for the draft in 1942, he was told that his blood Wassermann was positive. His main complaints on this

admission were failing memory, staggering gait when in the dark, sharp shooting pains in the upper and lower extremities and chest, loss of hearing in the left ear—all of approximately one year's duration.

Physical examination revealed an alert, cooperative white male of 45 years, oriented in all spheres and showing little evidence of memory impairment. Significant findings were: (1) diminished pupillary light reflexes; (2) considerable delay in response to painful stimuli; (3) absent deep tendon reflexes; (4) diminished anal sphincter tone; (5) internal hemorrhoids and (6) swaying of the body when standing with the feet close together and the eyes closed.

The blood counts and urinalysis were not unusual. Serological examination of the blood revealed a positive Kline, negative Kahn and a Kolmer reaction positive in a dilution of 1:8. Examination of the spinal fluid revealed 29 lymphocytes per cu. mm., a total protein of 68 mg. per cent, a colloidal gold curve having a first zone peak, and a Kolmer reaction positive in a dilution of 1:8. The patient was given a total of 40 hours of fever therapy in the Burdick cabinet and eight injections of old arsphenamine.

In November, 1947, the patient returned to the hospital stating that the sharp shooting pains had increased in severity and to such a degree that he was unable to continue work. Physical examination at this time revealed findings comparable to those on the previous admission in 1945; in addition, there was mild dysarthria, impaired palesthesia and position sense in the lower extremities, and the gait was ataxic. The blood Kolmer and Kline reactions were positive; the Kahn doubtful. Examination of the spinal fluid revealed no cells, a total protein of 47 mg. per cent and a positive Kolmer. In the hospital the patient was given two intramuscular injections of Protamide, following which the shooting pains in the extremities and trunk decreased considerably. He was subsequently discharged from the hospital and advised to continue this treatment at home.

In April, 1949, he returned to the hospital complaining of flatulence, constipation, a 17-pound weight loss and frequency and urgency of urination. The lancinating pains in the extremities and trunk had lessened, and there had been only a few mild twinges of pain since cessation of the Protamide treatment three months before. Blood serologic tests revealed a positive Kline, negative Kahn, and a Kolmer reaction positive in a dilution of 1:4. The spinal fluid contained 17 cells per cu. mm., and a total protein of 124 mg. per cent. The serologic tests were reported as unsatisfactory. A gastrointestinal tract series, colon series and chest x-ray were interpreted as normal. The patient was inoculated with malaria and given 33 hours of effective fever therapy, terminated with quinine.

In January, 1950, the patient returned to the hospital complaining of pains all over his body involving the shoulders, knees and calves, and a band-like aching discomfort in the abdomen at the level of the umbilicus, constant dribbling of urine with severe urgency, a poor appetite, inability to sleep, inability to concentrate and severe memory impairment. Blood serology tests revealed a positive Kolmer in a dilution of 1:16, a doubtful Kahn and a positive Kline. The spinal fluid which was clear and colorless, contained 22 lymphocytes per cu. mm.; the total protein was 72 mg. per cent. The Kahn serologic test was positive.

Examination of the lower urinary tract revealed a bladder residuum of 240 cc. Cystometrograms showed a total capacity of 600 cc. with leakage occurring at the 500 cc. level. The patient was transferred to the Urology Service where a suprapubic cystostomy was done. A right orchiectomy was done four days after the cystostomy because of an abscess of the right testicle. During his hospital stay the patient received 3½ Gm. of chloromycetin and a total dosage of penicillin far in excess of the usual amount for a single anti-luetic course.

The patient's final admission to the hospital was in October, 1950. He complained of frequent attacks of shifting knife-like pains in both lower extremities unrelieved by four to ten aspirin tablets daily. Because of the incapacitating pains, cordotomy was recommended. Anterolateral section of the cord was subsequently done; between C₈ and D₁ on the left and between D₁ and D₂ on the right. On the first postoperative day, examination revealed analgesia to the D₄ level on the left; to D₃ on the right. The patient could move his lower extremities well, and there were no pains present.

Two days postoperatively the patient fell out of bed, disrupting the operative wound; secondary closure was done immediately. Two days after this incident the patient was confused and aphasic; his temperature varied between 102 and 103 degrees, and he coughed up copious amounts of purulent material. Rales were audible throughout both lung fields. The patient had been receiving 300,000 units of crysticillin daily; this dosage was doubled and he was given 1600 cc. of five per cent glucose by clysis daily. He then showed gradual improvement, and the fever gradually decreased to 100.4 degrees.

On the ninth postoperative day, however, the patient complained of headache and pain in his neck and back. There was moderate nuchal rigidity. Lumbar puncture performed two days later revealed thick, yellow purulent spinal fluid containing 2,374 white cells per cu. mm., and a total protein of 480 mg. per cent. A smear of this fluid revealed gram negative diplococci; gram negative bacilli (*proteus morgani*) subsequently grew out on the culture media. The organisms were resistant to streptomycin and penicillin. Aureomycin and

sulfadiazine were given in addition to the penicillin.

During the next six weeks there was gradual improvement and his temperature returned to normal levels. He was still disoriented, confused and lethargic; both lower extremities were spastic and could not be moved voluntarily. The patient was started on a physical therapy program and arrangements regarding his future disposition were begun. However, on the ninety-fourth hospital day he was found dead in bed.

Abstracted by Edward C. Clark, M.D.

CLINICAL DISCUSSION

Dr. Adolph L. Sahs, Neurology: This would be an excellent opportunity for the students to start the conference by expressing their opinion of the diagnosis.

Mr. H. R. Light, Junior Student: The majority of the students believed this man had tabo-paresis, 18 of the students believed he had tabes dorsalis alone, 14 considered meningovascular syphilis and tabes. In the differential diagnosis multiple sclerosis, subacute combined sclerosis and infectious polyneuritis were considered. The majority of the class believed the cause of death was a cerebrovascular accident alone, 14 thought it was a cerebral vascular accident in conjunction with meningeal and vascular syphilis, 13 voted in favor of respiratory paralysis.

Dr. Sahs: This is a particularly instructive case because we have historical data to show the development of this situation. This, of course, represents the tertiary stage, or late stage, of syphilis, in which the spirochetes are located within the nervous system predominately. The early treatment of these cases was rather uncertain, rather precarious, because mercury, salvarsan and iodides were the only treatment available at that time. I hope Dr. Nomland will tell us about the greater efficacy of penicillin in the modern treatment of these early cases.

It is sometimes thought that neurosyphilis makes its development at some very late stage in the course of syphilis, a fallacy that I think must be corrected at this point. The spirochetes usually enter the nervous system relatively soon in the course of the disease. Often, however, clinical symptoms do not appear in the nervous system until many years after the acquisition of the primary lesion. The symptoms are referable to meningeal infection, vascular inflammation and parenchymal disease (paresis or tabes). Tabes start in exactly this fashion, with lancinating pains. Then, depending upon the efficacy of treatment, tabes may remain dormant, or may progress in spite of all types of treatment. I feel quite sure that the fever therapy was instituted primarily to arrest his developing paresis. In the record there is considerable evidence of mental deterioration. He signed an operative permit which showed a fairly characteristic paretic type of handwriting.

I believe that the fever therapy was responsible for the arrest of the paretic symptomatology, but it did not have much effect, unfortunately, on the tabetic symptoms which went from bad to worse. The shooting pains became more troublesome, he developed various other phenomena such as sphincteric difficulties and weight loss.

We know these people are rather poor risks. They are often very thin, emaciated individuals who do not tolerate operative procedures very well. We tried to control his infection by conservative measures. He received fever therapy, once by means of the Burdick cabinet and once by way of malarial therapy, and various symptomatic measures of which protomide was one. Protomide has been used in an effort to control the lancinating pains of tabes. Eventually we were forced to face the problem of attempting to control these severe pains by some other measures. It was then that Dr. Meyers' service was asked to examine him with respect to the possible antero-lateral chordotomy for relief of his pain.

Let us review the matter of the patient's bladder difficulties. Dr. Bunge, will you elaborate on this subject?

Dr. Raymond G. Bunge, Urology: This man represents the typical picture of bladder disturbances associated with tabes dorsalis. In the early stages of tabes, bladder irritation is noted. The patient is apt to complain of frequency of urination and stress incontinence, especially on coughing or being jostled. There is a definite increase in the expulsive force of the bladder and a relaxation of the closure mechanism, i.e., the internal sphincter. In the late stages of the disease, the reverse is true. The expulsive mechanism is weakened and the retentive process is increased. The exact physiology related to the neurological lesions is not well understood, although most urologists believe that the lack of sensation in the bladder produces an overdistention, and this in turn produces atony of the bladder. As we have seen more and more of these cases, we are impressed with the obstructive factor at the bladder neck. We are impressed because a great many patients, both male and female, with this type of lesion in the past have responded well to transurethral resection of the bladder neck.

Another factor which may be operating in the obstructive process is an enlarged prostatic gland which ordinarily would not cause retention of urine, but a weak bladder musculature is unable to expell the urine past it. We attempted to relieve this man's retention of urine by transurethral resection of the bladder neck. This is usually done in several stages in order that the patient is not made incontinent from the procedure. However, this was impossible in this case, and since urinary drainage had to be established, a suprapubic cystostomy was done. As a complication of this, there developed an epididymitis which ordinarily would respond to antibiotic therapy, but in this

case it broke down and produced a sinus. An orchiectomy was performed and strangely enough there was, accompanying his epididymitis, an orchitis.

Dr. Stephen A. Forbes, Radiology: As stated in the protocol, the gastrointestinal tract examinations were entirely normal. This patient was seen in 1950 on two occasions. On each admission films of the urinary tract were made, the first without contrast medium. The films taken at that time show good detail somewhat obscured by overlying gas and fecal material, but no abnormal soft tissue masses or radiopaque calculi could be seen in either flank, or in the course of the urinary tract on either side. The significant finding was demonstrated by the cystourethrogram at which time unusual fullness at the bladder neck was demonstrated. This is characteristic of the outline seen in the presence of a neurogenic bladder. The same findings were demonstrated with air as with the opaque medium. With the patient in the oblique position, the vesical neck with its unusual fullness was demonstrated. This examination was repeated on the last admission and the fullness at the vesical neck was again demonstrated with air as the contrast medium. At that time it was thought that some reflux could be seen up the left ureter. It was better demonstrated on the AP film using opaque medium. The dye extended up the left ureter. This was thought to be on the basis of overdistention with the opaque medium in the presence of the neurogenic bladder.

Dr. Sahs: As I indicated a few minutes ago, the situation reached the point where we felt that more definite measures must be utilized to control these severe pains. Dr. Meyers, will you proceed with your discussion?

Dr. Russell Meyers, Neurosurgery: Among the multifarious symptoms of tabes dorsalis, the most disturbing of all are the "critical" episodes that implicate the limbs, the pelvic region and/or the gastrointestinal tract. Tabetic crises are paroxysmal events which strike with lightning-like suddenness, are agonizingly painful, last for minutes to several hours or several days coming repetitively during that time, and leave the patient comfortable until the next strike. Frequently associated with these crises are disturbances of gastrointestinal function manifest as vomiting and belching and attended by much sweating, asthenia and pallor. This sequence of events can lead to widespread metabolic disturbances in the nature of alkalosis culminating in convulsive phenomena.

The endeavor to relieve the pain of gastric crises entails a rather deep bilateral chordotomy of the antero-lateral funiculus of the spinal cord. I emphasize the matter of the incision being deep in view of the known course of visceral pain impulses. The somatic pain fibers comprise a fairly well circumscribed bundle, the lateral spinal thalamic tract. Somewhat deeper than these in the fasciculus proprius region are the fibers which

mediate visceral pain impulses. An ordinary chordotomy performed, for example, for somatic pain due to sarcoma in a limb is insufficient to abolish the pain of tabetic crises.

The afferent pain pathways of the viscera run toward the central nervous system by way of the splanchnic nerves and ascend in the fasciculus proprius area of the spinal cord to reach bulbar terminations in the region of the nucleus solitarius, the dorsal motor nucleus of the tenth nerve and the nucleus ambiguus. The afferent pathway for the vomiting of tabetic crises is along the vagus nerves. Hence, in performing deep antero-lateral chordotomy for tabetic crises, pain may be alleviated, but the bouts of vomiting are unaltered. I make this point in order to emphasize the fact that we were dealing with a rather widespread and complicated interplay of neural components, not with a single channel which subserves both pain crises and the vomiting reflex. In the instance of the patient presented today, the chordotomy was performed at the low cervical and upper dorsal regions of the cord. It was apparently successful for relieving the patient of his tabetic pains. Unfortunately the patient fell out of bed, disrupted his laminectomy wound and established a meningitis of pyogenic type. This infection was in time brought under control and the patient lived for 94 days after the operation.

Dr. Sahs: The clinical diagnoses which were listed in the chart are tabo-paresis; flaccid paralysis of the bladder; acute epididymis, right; cystitis; decubitus ulcers of the left shoulder, knee, ankles and feet; disruption of operative wound of back. There is a statement concerning the development of a dysphasic difficulty, the etiology of which we were not certain. We did not know whether the vascular accident was caused by atherosclerosis or by his syphilitic infection. He was apparently unchanged for a period of weeks and then died rather suddenly.

NECROPSY FINDINGS

The principal necropsy findings were those of advanced neurosyphilis with complications incident to tabes dorsalis. The columns of Gall were virtually destroyed, whereas the columns of Burdach were fairly well preserved. This is in accord with the distribution of clinical findings with little involvement of the upper extremities. Recent degeneration in the lateral columns was present as a result of the chordotomy. The urinary bladder showed chronic cystitis, and there was bilateral pyelonephritis. There was moderate generalized arteriosclerosis. A small area of encephalomalacia with hemorrhage was found in the left Sylvian fissure. Death was due to bilateral necrotizing pneumonia.

NECROPSY DIAGNOSIS

Neurosyphilis with tabes and meningoencephalomyelitis.

Cystostomy with cystitis and pyelonephritis, bilateral.

Encephalomalacia, left Sylvian fissure region.

Chordotomy, cervico-dorsal, recent.

Lobular pneumonia, necrotizing, bilateral.

Generalized arteriosclerosis, moderate, with myocardial fibrosis.

Atrophy, left testis; orchiectomy, right.

Dr. Emory D. Warner, Pathology: In addition to his general emaciation, wasting and debility, he had decubiti over essentially all bony prominences; over the right shoulder, sacrum, greater trochanters, both fibular heads, both lateral malleoli and both fifth metatarsal heads. Also, as a terminal event he had a necrotizing and fairly extensive lobular pneumonia with extensive breakdown of lung tissue within the areas of pneumonia. The lungs were very congested and edematous, weighing 700 and 850 Gm.

Many times we have been confronted with a quest to find a vascular accident, either cardiac, pulmonary or cerebral, to account for an unexpected death; a so-called sudden death, in that the patient was seemingly no worse than he had been for a day or two, and then was found dead in bed. A great many of those cases in the past have had sepsis and have had no demonstrable vascular catastrophe such as a cerebral accident, a pulmonary embolism or a cardiac vascular accident. I think the "unexpected" death in a debilitated individual such as this, with the amount of infection he had, is not particularly unusual.

With regard to the other findings, the cystostomy was healed and the bladder had shrunk down to a rather small and fairly thickwalled bladder. Thus, he did not present a distended, thin-walled, atrophic bladder at the time of autopsy. Drainage had apparently been quite adequate. There was a low-grade bilateral pyelonephritis, but it was low grade and chronic and should not have interfered with renal function to a significant degree. The spinal cord presented the typical cord presented the typical findings of tabes in that there was extreme atrophy, almost total absence of the medial portion of the posterior columns as seen in the cervical region. The posterior columns were not grossly conspicuously flattened and atrophic because the columns of Burdach, making up the lateral portion of posterior columns, were rather well preserved. For this reason the cord was not as shrunk as we have seen at times in syphilis.

There was a chronic leptomeningitis. It was not an active, pyogenic lesion at the time of death. Thickening, scarring of the meninges, chronic inflammatory cell infiltration, rather diffusely and rather mildly were evident. This was associated with thickening of the vessels with virtual obliteration of a number of the medium-sized arteries in the meninges. In the left Sylvian fissure region there was an area of softening with some hemorrhage of the brain associated with the vascular

change. I think this lesion might explain the aphasia. There was not much in the way of the findings of paresis. The brain was not atrophic. It weighed 1550 Gm., which is normal, and the gyri were not grossly atrophic. Microscopically, throughout the brain there were foci of low-grade chronic encephalitis. These tended to be perivascular and rather superficial, in that they were not deep in the substance of the brain. How much of that could be syphilitic and how much of it was merely a part of the more recent meningitis is a little hard to determine accurately. At least, he did not have the one finding of paresis which is more or less specific, namely the extensive destruction of cortical neurons and gross atrophy of the cortex.

In this particular case there was meningitis complicated by a pyogenic meningitis in recent weeks which was successfully brought under control by antibiotic therapy. How much of the scarring was the result of this pyogenic meningitis is difficult to say. I think, undoubtedly some of the cellular infiltrate is residual from that. Also with a simmering infection of pyogenic type, we may see some of the vascular changes. For this reason some of the obliterative vascular changes might be in part due to the pyogenic infection.

In summary the patient was extremely debilitated, emaciated with extensive decubiti and with a terminal necrotizing pneumonia. There were the classic findings of tabes dorsalis and meningovascular syphilis with encephalomalacia resulting from vascular changes. The chronic meningitis was complicated with superimposed pyogenic infection of recent origin. One of the features which is worth stressing at this time is that the classic finding of degeneration of the posterior columns in the spinal cord in tabes is a lesion which has never been satisfactorily explained. One of the more fashionable explanations is that the posterior roots, which are enveloped by leptomeninges, are damaged by the lowgrade chronic meningitis. For anatomic reasons, one might expect that in a lowgrade meningitis the posterior roots would be more or less selectively damaged. There are two things wrong with this apparently logical explanation. One is that the peculiar anatomic setup is not limited to the posterior roots, and, thus, should involve the anterior roots as well. Secondly, in a great many cases of tabes, the cellulitis responsible for this damage to the posterior roots is not evident. One can rationalize by assuming that the cellulitis is healed and burned out, and that only the end result remains evident.

Dr. Sahs: I think that unless the syphilitic patient would not report for examination and treatment, this series of events would probably not take place today because of the remarkable advances that have been made in the treatment of syphilis. *Dr. Nomland,* would you like to discuss this matter?

Dr. Ruben Nomland, Dermatology: This man

had good treatment of his syphilis, considering the time it was done. In 1923, before bismuth was used, treatment of syphilis consisted of courses of salvarsan and mercury. The generally accepted treatment at that time was a year or more of steady treatment with alternating or continuous courses of an arsenical and mercury. He was in on four different occasions for arsphenamine injections, and he had mercury rubs in the interval. There is no accurate record of the subsequent serologic tests. However, ten years later, in 1932, he did have a negative test. Subsequently he had positives which he disregarded.

Granted that this treatment was adequate, what should or might have been done about this man? From the period from February, 1925, to his entrance to the hospital in 1945, one important thing had been omitted, no spinal fluid examination had been done. There is no doubt that his spinal fluid would have shown activity of his neurosyphilis during all or at least part of these 22 years during which he sought no help for his syphilis. Examination of the spinal fluid is absolutely necessary before one can discharge a patient and before one can evaluate a patient who has a latent syphilis. If this man had had a spinal fluid examination in 1925, a neurosyphilis might have been discovered. However, routine spinal fluid examinations of latent syphilis or syphilis under treatment were done in relatively few places at that time.

This brings him up to 1945, when he came in with the typical symptoms of an early tabes and what we call a group III or parietic type of spinal fluid. On examining the spinal fluid there are at least three things that are not too difficult to do, or have done, that are extremely important. The simplest and most important is the cell count. His cell count was 29 which, of course, is medium high and indicates an active process. Total proteins were 68 mg. per cent which is moderately high. He had a positive Kolmer in a dilution of 1:8 which indicates an active neurosyphilis. He also had a first zone gold curve of the parietic type.

In view of the fact that he had a neurosyphilis with active syphilis, the best treatment at that time, and even now, would be fever treatment. He had 48 hours or so in the hypertherm which is adequate fever treatment. Following his fever treatment there was great improvement in the spinal fluid as far as the cell count is concerned, less improvement in the other findings which is the rule. However, you will note that in spite of the fact that his spinal fluid at least improved temporarily, the tabetic type of symptoms progressed. As a matter of fact, when he got his second course of fever, malaria, the spinal fluid had again returned to positive. The treatment he had should have arrested most cases of active neurosyphilis, though his tabetic symptoms might have progressed in spite of a favorable serologic response to treatment. Symptoms of tabes do not respond as do those of parietic variety. All in all, this man

had pretty good treatment and his syphilis went along in spite of it. He might have done the same even with modern treatment.

We think modern treatment is so superior to the old-fashioned treatment that since 1941, when it was discovered that the spirochetes in syphilis disappeared from infectious lesions of syphilis within 24 hours after the institution of the penicillin treatment, penicillin has proved to be the drug of choice. Results of penicillin treatment in early syphilis are considerably better, or at least comparable, to those that were obtained with arsphenamine. However, there was an important difference. With arsphenamine and bismuth, adequate treatment of primary syphilis would be carried out over a period of 52 weeks, while modern treatment with penicillin is carried out over a period of ten days. In ten days you can do with penicillin what formerly took a year and a half with arsenicals and bismuth. You can keep your patient under control for ten days, but you can not keep a patient under control for a year and a half. Penicillin in early syphilis has proved its worth.

What about penicillin in late syphilis or neurosyphilis and all sorts of syphilis? The general impression is that penicillin is equally good. We do not have enough experience ourselves to evaluate completely the beneficial effects of penicillin in late syphilis, neurosyphilis, active neurosyphilis, but most syphilologists of great experience recommend penicillin in all phases of syphilis. At the present time the recommended dose for primary or secondary syphilis is 600,000 units of penicillin G in one of the depot types of injection once a day for ten days. The results of such treatment, as followed by serologic tests and spinal fluid examinations, are superior to those that we formerly got with the most intensive treatment with any of the heavy metals. A third type of syphilis that can well be treated with the same amounts is syphilis occurring in pregnancy because that amount of treatment given to a pregnant woman will insure the birth of a child unafflicted with syphilis 99 per cent of the time. Penicillin is also recommended for late active neurosyphilis. One might give 600,000 units of penicillin three times a week until 12,000,000 units have been given. Whether penicillin is of equal value in latent syphilis or cardiovascular syphilis, we do not yet know.

If syphilis relapses as indicated by serial follow-up with serologic tests, retreatment once or even twice with larger courses of penicillin is indicated. If neurosyphilis fails to respond, then fever therapy is in order.

I think I can sum up the treatment of syphilis by saying that in all stages of syphilis, give penicillin with the hope that it will be as efficient as any previous form of syphilis treatment. Second, in neurosyphilis we still have fever, and whether one should use it in the form of the heat cabinet

or malaria is still debatable. The thing we do know is that penicillin was introduced in 1941, and at the same time adequate public health measures were taken to help control syphilis. As a result, the incidence of syphilis has been cut in half, and syphilis is a disappearing disease. If we keep after it, it may be that many of you students will live to see the day that you will never diagnose a tabes or general paresis.

Dr. Sahs: From time to time new serologic tests are discovered and utilized in the diagnosis of syphilis. Dr. Borts, would you give us some information about the tests and about false-positive reactions?

Dr. Irving H. Borts, State Hygiene Lab: Basically we must remember that serologic tests for syphilis are not specific because antigens are not used, thus serologic reactions must be interpreted in light of the clinical findings and case history. Also, a serologic test is not a diagnosis, but merely a valuable adjunct to a diagnosis. Because of the vast multiplicity of serologic tests, the choice of the test to use was a highly debatable subject. It was not until 1934-35 that the Public Health Service called together the various authors of serologic tests of the United States and the Continent at Copenhagen and Washington, where they demonstrated the efficiency of their tests against sera from varying cases of syphilis and from normal individuals. The results were rather surprising. As a result of this, the Public Health Service has made other efforts to standardize serologic tests for syphilis and have recommended those that stood up under the trial. The less satisfactory tests that showed inferiority in their ability to diagnose syphilis and more tendency to variations of a non-specific nature were deleted.

These conferences were little more than completed when there appeared to be a race among the various authors of the tests to increase their sensitivity, losing track of the importance of the specificity of the tests. As a result, the raising of the sensitivity level of the serologic tests lead to a lowering of the serologic threshold and an increase in non-specificity of the tests. This caused a great deal of difficulty, particularly when these tests were applied to more or less normal populations and individuals in hospitals for causes other than syphilis. The test also became popular in screening blood for donor purposes. In a series of serologic tests performed on 210,000 blood specimens donated to the Red Cross, 489 of the group showed positive serologic tests. In order to screen those out and determine whether these individuals were actually syphilitic or not, three noted syphilologists in this country appraised all the individuals who had positive serologic tests in this group. As a result of this study, 40 per cent of the group were finally designated as luetic and 60 per cent were declared to be non-syphilitic.

These non-specific reactions are a source of much trouble, not only to the laboratorian, but the

physician and patient as well. At the present time there is no satisfactory way of eliminating such types of reaction. We know they are inherent in the best serologic test, carried out in the most expeditious manner, by the most highly-trained personnel. The serologic principle present in the sera that causes the reaction is in the serum globulin fraction of the serum and certain changes in the serum globulin fraction by other diseases will alter the serum globulin to a point where it will give nonspecific reactions for serologic tests of syphilis.

During World War II, the problem became important in that our soldiers were in areas where malaria and certain spirochetal diseases other than syphilis were common. Too frequently individuals with these diseases were labelled syphilitic solely on the basis of the serologic tests. In order to prevent future occurrence of this, the Surgeon General issued a directive to all medical officers calling to their attention the part that these nonspecific reactions played in the diagnosis of syphilis. We know that the majority of the spirochetal diseases, such as rat-bite fever, certain stages of yaws, certain of the leptospiroces like Weil's disease, etc., will give non-specific serologic reactions to a high degree. Among the causes for non-specific reactions, it is notorious that sometime during the course of malaria an individual will give positive serologic tests for syphilis. That was the thing that primarily called this problem to the attention of the Surgeon General. Non-specific serologic reactions occur frequently in infectious mononucleosis, infectious hepatitis, following viral pneumonia, vaccinia, leprosy and during pregnancy. Except during pregnancy, these non-specific serologic reactions are usually fleeting in character. They do not persist for long periods and as a rule fluctuate on periodic testing.

Non-specific serologic reactions usually occur most frequently among the precipitation tests, such as the Kline, Kahn, VDRL and to a marked lesser degree in complement fixation tests, such as Kolmer. When such reactions occur, which do not go along with the physical findings or clinical history, biologic false positive reactions should be thoroughly considered. Repetition of the tests and quantitation are indicated until the solution of the problem is apparent.

The serologic findings in this particular case are those of the average case of neurosyphilis in which all the serologic tests are positive. We know too that in neurosyphilis a certain per cent of the individuals will give a negative blood serology, whereas the spinal fluid serology will be obviously positive. It is a very difficult problem, but we must take cognizance of it. The VDRL test has been designed by the Public Health Service with the idea of dispensing with certain of these non-specific phases. However, we readily recognize that there is no serologic test for syphilis at the present time

that is fully devoid of the non-specific type of reaction.

Dr. Nomland: As Dr. Borts brought out, I think the Kolmer is the most reliable of the serologic tests. Of the patients we evaluate with positive serologic reactions, I would judge that one-fourth of them have false positives which to us at least are unexplainable. In our experience the most common cause for false positives is infectious mononucleosis, but we see many that are unexplained. I do not believe you can eliminate false positives entirely, but if you do multiple tests on the positive reactors, the percentage of false positives falls a great deal. The least reliable tests are the precipitation tests. The Kahn test gives the highest percentage of false positives. The VDRL is not much better in that respect. I would, therefore recommend that you depend on the Kolmer, at least in Iowa. If the Kolmer is negative or is weakly positive, and there is no reason to believe the person had syphilis, there is a great probability that the reaction is a false positive.

I think the United States Public Health Service should be criticized for insisting on having such sensitive tests as entirely too many false positives will occur. I think the tragedy of a false positive test sometimes is greater than any tragedy that might eventuate from the undiagnosed syphilis. If you practice in Iowa, if your positive is "not completely across the board," watch out as you may have a false positive. If you are so unfortunate to practice in states where they do only a precipitation test, you are going to have a lot of false positives.

Dr. Sahs: No mention was made of false positive reactions in spinal fluid. I believe I am correct in saying that that situation seldom occurs. I recall one or two situations in which the patient with a positive blood Wassermann developed some subarachnoid bleeding, then the spinal fluid became positive through contamination. I do not recall any instances in which we have been able to prove the existence of a so-called false positive reaction in the spinal fluid.

Dr. Nomland: The reason for that is they do the Kolmer on spinal fluid.

Dr. Meyers: Wasn't multiple sclerosis considered a circumstance under which positive Wassermann was obtained?

Dr. Sahs: Multiple sclerosis, brain tumors and various other diseases are listed in the textbooks as sources of false positive reactions. I think the type of serologic test determines the incidence of false positive reactions.

Dr. Bunge: In treating gonorrhea in the army, we were always very concerned about the production of latent syphilis in using penicillin. I wonder if Dr. Nomland has any comments to make on this?

Dr. Nomland: When penicillin was first used in
(Continued on page 68)

The JOURNAL of the

Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MRS. MARILYN McLAUGHLIN, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.Van Meter
DANIEL A. GLOMSET, M.D.Des Moines
TOM D. THROCKMORTON, M.D.Des Moines

PUBLICATION COMMITTEE

ROBERT N. LARIMER, M.D., Trustee.....Sioux City
LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M. D., Trustee.....Newton
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9

Vol. XLII FEBRUARY, 1952 No. 2

THE UNIVERSITY ANNOUNCES THE
ESTABLISHMENT OF A PRECEPTOR
SYSTEM

Elsewhere in the *Journal* will be found the announcement of the establishment, by the College of Medicine, of a preceptorial method of training for medical students between their junior and senior years. This has been approved by the Board of Education, the College of Medicine, the Committee on General Practice of the Iowa State Medical Society, and officers of the Iowa Academy of General Practice. Representatives of the University met with representatives of the Committee on General Practice and the Iowa Academy of General Practice to approve of general principles of the program; those principles are enunciated in the announcement.

It is our feeling that this marks a definite forward step in the training of more physicians to serve the state of Iowa. We believe the month's experience with a physician in general practice will give the student a clearer picture of the value of such a practice and a realization of its richly satisfying character. We believe it will also imbue him with a greater feeling of competence in standing on his own feet away from the resources of a large hospital. It is intended to show him the mechanics of daily practice—how to meet and interview patients, how to arrive at the charge for his service, how to keep records, how to fill in the necessary forms, and so on. The economics of the practice of medicine cannot be taught as realistically at the University Hospitals as in the field. The *science* of medicine can and is stressed at the University, but possibly the practicing phy-

sician can best show the student many of the facets of the *art* of medical practice.

We are happy to note that the University hopes to put this plan into operation this summer for the benefit of the present junior class, and we are sure we speak for our many members when we promise the cooperation of the practicing physicians of Iowa.

GENERAL PRACTITIONER'S AWARD

Last month your President called attention to the General Practitioner's Award which was given in Iowa for the first time last year. Only three written nominations were received, and the winner, Dr. Ambrose E. Wanamaker, was then nominated by the State Society for consideration in the national award. An Indiana physician received the honor of being chosen the outstanding general practitioner of the country at the meeting in Los Angeles.

We have many physicians in Iowa who are worthy of this honor. We hope many more counties will nominate one of their members this spring, supporting his nomination with letters from community leaders and organizations. All of us have seen evidence of the respect and affection in which many doctors are held. Many communities would welcome an opportunity to honor their physician by supporting his nomination.

As we start this new year, let's pay tribute where tribute is due. Let's let our older physicians know how much we appreciate them. If they are worthy, nominate them for the award. Before you know it April will be here.

MANUAL ARTIFICIAL RESPIRATION

On the recommendation of the National Research Council, the Holger Nielsen push-pull method of artificial respiration has been adopted nationally and will supplant the Schafer prone-pressure method as soon as personnel can be taught the new system. The Defense Department said the Holger Nielsen system, for years the standard method in Norway and Denmark, has been approved by virtually every national organization active in first aid work. Among them are the armed forces, American National Red Cross, United States Public Health Service, Federal Civil Defense Administration, Boy and Girl Scouts and the AMA's Council on Physical Medicine and Rehabilitation.

Experiments preceding the selection of the system were carried on at the Universities of Pennsylvania and Illinois, Springfield (Mass.) College and Harvard University. Experiments were performed on animals, on sick and injured patients who had stopped breathing, on human volunteers holding their breath, on freshly de-

ceased cadavers and on volunteers whose breathing ability had been paralyzed for short periods of time by use of drugs. Reports on these experiments, and other studies and investigations, convinced the National Research Council that the Nielsen method is to be preferred to all others as standard procedure in most cases. An important finding was that the Nielsen method exchanges about twice as much air as the Schafer method, up to now the standard artificial respiration technique with most organizations.

The technic method of the Holger-Nielsen method is as follows:

1. *Position of the Subject:* Place the subject in the face down, prone position, bend his elbows and place the hands one upon the other. Turn his face to one side, placing the cheek upon his hand.

2. *Position of the Operator:* Kneel on either the right or left knee, at the head of the subject, facing him. Place the knee at the side of the subject's head close to the forearm. Place the opposite foot near the elbow. If it is more comfortable, kneel on both knees, one on either side of the subject's head. Place your hands upon the flat of the subject's back in such a way that the heels of the hands lie just below a line running between the arm pits. With the tips of the thumbs just touching, spread the fingers downward and outward.

3. *Compression Phase:* Rock forward until the arms are approximately vertical and allow the weight of the upper part of your body to exert slow, steady, even pressure downward upon the hands. This forces air out of the lungs. Your elbows should be kept straight and the pressure exerted almost directly downward on the back.

4. *Expansion Phase:* Release the pressure, avoiding a final thrust, and commence to rock slowly backward. Place your hands upon the subject's arms just above his elbows, and as you rock backward the subject's arms will be drawn toward you. Then drop the arms gently to the ground. This completes the full cycle. The arm-lift expands the chest by pulling on the chest muscles, arching the back, and relieving the weight on the chest.

5. *Additional Related Directions:* It is all important that artificial respiration, when needed, be started quickly. There should be a slight inclination of the body in such a way that fluid drains better from the respiratory passage. The head of the subject should be extended, not flexed forward, and the chin should not sag lest obstruction of the respiratory passages occur. A check should be made to ascertain that the tongue or foreign objects are not obstructing the passages. These aspects can be cared for when placing the subject into position or shortly thereafter, between cycles. A smooth rhythm in performing artificial respiration is desirable, but split-second timing is not essential. Shock should receive adequate at-

tention, and the subject should remain recumbent after resuscitation until seen by a physician or until recovery seems assured.

THE LIPOTROPICS AS INVALUABLE THERAPEUTIC AGENTS

Some time ago one of the major clinics demonstrated beyond the question of a doubt the value of choline in the treatment of hepatitis. Shortly thereafter it was announced that the addition of methionine to the choline enhanced its value as a therapeutic agent. From time to time various pathological processes have been added to the list of those whose course has been modified by the use of lipotropic agents such as choline, methionine and inositol. Sometimes the results are comparable to the newer antibiotics in their spectacular and life-saving properties. Such an instance was observed in the five year cure of a case of cirrhosis of the liver which had gone on to marked jaundice, ascites and emaciation.

F. S., a 60 year old housekeeper, previously in good health, entered the hospital by ambulance with a history of loss of weight, jaundice bloating and distress dating back three months. On admittance her red blood count was 3,450,000; white blood count 4,020; hemoglobin, 11.1 and the icterus index, 105 units. The van den Berg test was 29.6 mg. 1/100 cc.; direct reaction 1.0. A preoperative diagnosis of biliary obstruction was made and a malignancy of the gall bladder or appendix was suspected. At the time of the operation on November 30, 1946, the liver was large and firm and a postoperative diagnosis of cirrhosis of the liver was made. A biopsy of the liver at this time showed a biliary cirrhosis. On December 16, 1946, the icteric index was still 120 units and on December 25, 1946 it was 100 units. On December 14, 1946, the red blood count was 3,660,000; the white blood count, 10,100 and the hemoglobin was 11.4. The patient was very weak and was started on choline, then given both choline and methionine. On April 9, 1947, a paracentesis was done yielding nine liters of ascites fluid. On May 15, 1947 another paracentesis was carried out which yielded five liters of the fluid. The patient now was much improved and able to come to the office but was kept on choline and methionine continuously with a high protein diet. Her recovery was complete and now, after nearly five years, she remains very well.

Like results have been reported by Franklin and associates¹ who found clinical improvement, as shown by subjective and objective findings in almost all patients (ten with cirrhosis and five with fatty infiltration), after lipotropic therapy. They noted a disappearance of fats and regeneration of parenchymal cells in all cases.

In 1849 choline was isolated from the bile of pigs. Later it was recognized as a part of the

1. Franklin, M.; Salk, M. R.; Steigmann, F.; and Popper, H.: Clinical functional and histologic responses of fatty metamorphosis of human liver to lipotropic therapy. *Am. J. Clin. Path.*, 18:273-282 (April) 1948.

lecithin molecule. In 1924 it was found that depancreatized dogs died of fatty degeneration of the liver even though kept on insulin. However, it was later found that with the administration of choline the dog could be kept alive. At first it was thought that choline mobilized fat deposits in the liver which prevented normal hepatic circulation and led to liver necrosis and cirrhosis. It is now felt that choline in combination with phosphoric acid and neutral fats form a phospholipid which is possible of metabolization and transportation. This is verified by the fact that the mobilization of fats in the liver by the lipotropics is not accompanied by a like increase in cholesterol in the plasma lecithins nor plasma spingonyelin. Thus with the administration of choline the liver cells can utilize more fats. If choline and other B-vitamins are not present in sufficient amounts, fatty infiltration of the liver may make it refractory to insulin. In this case the administration of choline, methionine and inositol may help materially in controlling the diabetes. Joslin² once said, "Choline is wonderful. I hope it will not be long before more proof of its protective power against cirrhosis of the liver and atheromatosis in diabetes is achieved." Poweranze, determining the lipotropic factors on blood values as six diabetic patients exhibiting biochemical evidence of liver dysfunction, found that on a regime including methionine, choline and inositol, each patient showed significant clinical progress as measured by improvement in albumin-globulin ratios, liver function tests, cholesterol levels, and, in many instances, reverting completely to normal.

It has been shown that hypercholesteremia influences the development of atherosclerosis. Just how much will be accomplished in the future in prevention or relief of coronary atherosclerosis is yet to be seen.

We have seen cases in which there evidently was a liver damage following extensive surgical procedures and in which the prognosis was extremely grave and yet they have seemingly responded to treatment with choline or a combination of choline and methionine. These are not proven. It has been reported that some cases of pernicious and megaloblastic anemia which have been resistant to parenteral liver therapy have done better when choline was given along with the usual therapy.

Since the factors that produce toxemia of pregnancy tend to cause liver damage, lipotropic substances have been used with some feeling that they are beneficial, especially as a preventative of liver damage. In erthroblastosis, methionine has been used and although it does not prevent nor destroy antibodies, there has been some evidence that it has helped in preserving the normal status of the liver of the newborn and thus improving

the prognosis of those in which transfusion or exsanguination is indicated.

Without effort toward an exhaustive study of the place of the lipotropics in therapy, we do feel that they have proven themselves of immeasurable value and along with elimination of etiologic factors, the institution of a diet high in protein and carbohydrates and abundant intake of all vitamins, they will many times swing the balance between a cure and a fatality.

ISMS BULLETINS

Within the past two months, the secretary's office has mailed two bulletins to all members of the State Society. Both of these bulletins contained information which was timely and of real value to the membership. Both complemented to a certain extent material already published in the *Journal*.

The bulletins, according to the secretary, are not to be a repetition of the *Journal* but will supplement it and call attention to special articles of particular interest. They are not to be published at any regular interval, but only as enough material becomes available to warrant mailing them. They are an added service feature being offered by your State Society. Your comments regarding them will aid the secretary in future mailings.

Special Article

PRECEPTOR INSTRUCTION

The State Board of Education has approved the plan of the University of Iowa College of Medicine for a preceptorial period of instruction for all senior medical students. Plans for this training are being worked out by a Committee in the University in conjunction with representatives of the Iowa State Medical Society and the Iowa Academy of General Practice. It is realized that plans made at this time must be tentative and subject to change as indicated by further experience with the preceptorship plan. In this trial period it was thought that a one month preceptorship was advisable with a longer period in subsequent years if experience indicates that extension of the service seems advisable. It is hoped that all students will be able to serve the preceptorship during the summer months between the end of their junior year and the beginning of the fall term of the senior year.

In a meeting with representatives of the State Medical Society in Des Moines the following qualifications for preceptors were suggested:

1. A reputable physician who is interested in teaching and who can give the student training in the general practice of medicine.
2. The physician must be in good standing and of good reputation in his local community.

2. Joslin, E. P.: Treatment of diabetes today. J.A.M.A.: 140:581-585 (June 18) 1949.

3. He must be a member in good standing of the county, state and American Medical Association.

4. He shall subscribe to the Code of Ethics of the American Medical Association and the Code of the State of Iowa.

5. The preceptor shall supply board and room for the student, preferably in his own home if this is possible. The preceptor has no obligation to the student's wife and family if he is married.

6. The preceptor shall make no other payment to the student.

7. The preceptor shall send a written confidential report concerning the student's work and ability to the Dean of the College of Medicine at the conclusion of the preceptorship.

8. The student shall not serve his preceptorship with a relative nor in his home community.

9. The student shall keep a daily log of his work to include a brief summary of the patients seen, their diagnosis, disposition, treatment and his participation in the handling of the patient; i.e., whether merely observation or rendering assistance to the doctor.

10. It is hoped that a yearly meeting of all preceptors can be held in Iowa City to discuss problems arising in connection with the preceptorship as well as including a scientific refresher program.

11. The University Committee shall prepare a printed form on which prospective preceptors will list biographical data concerning his education and training and his facilities for the training of students.

12. Preceptors shall be appointed for a period of one year. Some rotation of preceptors is advisable.

Those physicians who wish to serve as preceptors should make application to the Iowa State Medical Society. The State Society, after screening the list of applicants, will supply the College of Medicine with a list from which the College will make the final selection and appointments.

The purpose of the preceptorship is to bring the student into intimate association with the general practice of medicine in the home and office so as to supplement the training which he receives during his clerkship in the University Hospital. The preceptor will have the opportunity of being closely associated with the student and can provide an inspiring influence in his medical education. He can instruct the student in the art of the family practitioner as well as in the ethics and economics of private practice. It is hoped that the student may gain some insight in the methods of keeping medical records, charges, billing and collection of fees. The preceptorship plan also affords a unique opportunity to impress upon the student the social and community responsibilities of the private practitioner in the smaller communities.

From the professional standpoint it is hoped that the student may be shown how certain

methods and procedures can be carried out in the home or office without the necessity of hospital organization and equipment to help him. The amount of responsibility and participation that is thrown on the student must depend upon circumstances and the student's ability but the final responsibility for the care of the patient rests upon the preceptor. By means of this association it is hoped that the student will gain insight into the methods of office and home practice and may gain confidence in his ability to cope with disease in the home.

The College of Medicine is deeply appreciative of the assistance and co-operation of the State Medical Society in the inauguration of this project.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 64)

the treatment of gonorrhea, the dosage might be only 100,000 or 200,000 units, given on maybe two successive days. We know that is not adequate to treat a syphilis which might have been acquired at the same time. The U. S. Public Health Service in the City of Chicago evaluated that problem. After studying the problem for about a year, they came to the conclusion that approximately one person in 200 with penicillin treatment for gonorrhea had acquired syphilis at the same time, and treatment of the gonorrhea suppressed the syphilis so that later on, as a rule within a year or less, he developed precocious lesions of syphilis. They recommended that, if you treat gonorrhea with penicillin, you should see that the person gets checkup serologic examinations for syphilis for a period of a year. That way you will pick up the cases of double infection.

MEDICAL LICENSES ISSUED FROM

September 9 to November 20, 1951

Medical licenses were issued to the following from September 9 to November 20, 1951: John Wilbur Barloon, Santa Monica, Calif.; Mildred Mae Benjegerdes, Oklahoma City, Okla.; Julius Erwin Cook, Iowa City; Merton Ardell Johnson, Nevada; George Francis Koptik, Garwin; Matthew Parlyn Lawler, Parnell; John Cecil Lyons, Davenport; George John McMillan, Fort Madison; Richard Ervin Munns, Alden; Robert Charles Payton, North Liberty; George Henry Pester, Broken Bow, Nebr.; Benny Pinsky, Los Angeles, Calif.; Donald Stevenson Reading, Iowa City; Walter M. Reiner, Holdrege, Nebr.; Charles Ray Scholl, Jr., Iowa City; John Frederick Troxel, Cedar Rapids; William Daniel Trumpe, Iowa City; William Rice Updegraff, Des Moines; Russell Jean VanWetzinga, Davenport; David Glenn Whitney, Iowa City; William George Wilt, Jr., Iowa City.

President's Page

With the new year well on its way and by now well-meant resolutions either broken or badly bent, one comes face up with the necessity of making one more. It is this; that you and I and every physician must take a firm stand and become an active participant in the elections of 1952. Perhaps this is emphasized by the fact that we are groaning and sweating under the problems of our income tax. None the less, if we are dissatisfied with the seemingly unjust taxes to which we are subjected and which take such a large proportion of our earnings without giving any security for the future, then it is high time we assert ourselves.

The problem is much greater than that of socialized medicine. It is a question of defeating the trend toward socialization of the entire nation. Let us not be so naive as to think that men in other professions and in business were completely philanthropic in their efforts to aid our fight two years ago. They saw the fact that socialization of medicine was but a stepping stone to a complete breakdown of our capitalistic system. With the same realism we of the medical profession must work toward electing men locally, state wide and nationally who will continue a policy in this country under which the individual citizen can control his destiny rather than be fettered with governmental control, under whatever name it may be called.

The plan of preceptorship for senior students of the University is beginning to take shape. The Executive Committee of the Medical School has subscribed to its support. It is now a direct challenge to us to carry through. I hope that many physicians in general practice will offer to take one of these students during the summer months. The plan has a twofold value. Its prime purpose is to introduce the student to the benefits and possibilities of service which this type of practice offers. But to the practitioner it will bring youth, vigor and new ideas when he may need just such an inspiration. I solicit your cooperation and ask you to submit your name to your Councilor as being willing to participate in this project.

A handwritten signature in dark ink, reading "Donald H. Young". The signature is stylized with a large, looping "D" and "Y".

President

General Manager's Page.

THE SPEAKERS BUREAU

The Speakers Bureau was established to stimulate post-graduate education and to provide outstanding talent for the numerous courses thus scheduled. The idea met with a cordial reception and for many years provided the members of the State Society with excellent courses. Physicians for a radius of 50 miles were in attendance, the cost for the course was collected in advance, and the attendance was remarkably consistent.

Eventually the larger cities took over many of these courses. The Speakers Bureau thus became involved in this type of education mainly for the rural areas. Due to lack of co-ordinated planning, inadequate publicity and collections of the participants' portion of the cost in advance, attendance in many instances was reduced to a minimum and the courses became a definite financial liability to the State Society. To re-establish this most essential activity of the Society, the following program is presented for the consideration of groups of counties in the outlying areas: (1) The Bureau will in every way assist a sponsoring group (usually a county society) in the organization of the course either by sending a personal representative to the area or by correspondence. (2) The Bureau will develop the program and furnish the talent requested by the sponsoring group, and furnish a financial estimate of the program selected. (3) The Trustees have allocated sufficient funds to assist these groups in maintaining the highest type of course.

A recent survey on the cost of a professional portion of county society programs shows that the individual costs per program ranges from 50c to \$1.00, depending largely on the membership of the society. This is a self-evident fact that if three or four county medical societies would combine their efforts to produce this type of post-graduate training, the greater attendance would lessen the cost per individual.

FILE OF OUTSTANDING SPEAKERS

The Bureau has in its files the names of outstanding speakers who are available for the post-graduate courses discussed above. The list includes not only Iowa speakers, but those from Mayo Clinic also. These speakers are available to all county societies. The cost of this type of program to the county society is mileage only.

SPEAKERS FOR LAY GROUPS

The Bureau maintains a fine list of speakers, too, who are prepared to discuss medical as well as medical economic subjects before lay groups. We feel that this is vitally important—one of our best public relations projects—and we hope that the county societies will cooperate in the fullest in maintaining this contact with service clubs, health education organizations, school health programs, discussions involving medical lay economics, and so forth. We propose to offer this directly to these groups, suggesting that they contact their county societies for needed speakers. The Federated Women's Clubs will be the first groups contacted.

OTHER EDUCATIONAL PROGRAMS

The Bureau has been coordinated with our Health Education programs and is especially active in furnishing speakers.

The Bureau continues its cooperation with the Cancer program by setting up the meetings and sending out the notices.

As most of you know, one program a week is maintained on Radio Stations WOI and WSUI. These programs will be increased during the coming year to include many of the local stations throughout the State.

(Send your requests to Dr. Robert B. Stickler, Speakers Bureau Chairman, 505 Bankers Trust Building, Des Moines, Iowa.)

R. S. Bernard, M.D.

General Manager

NEWS NOTES

From The Committee On Medical Service

Editor's note: The following is part II of a report of the Fourth Annual Medical Public Relations Conference of the American Medical Association held December 2-3 in Los Angeles, Calif. Part I was published previously in the January issue of the *Journal of the Iowa State Medical Society*.

REPORT OF THE FOURTH ANNUAL MEDICAL PUBLIC RELATIONS CONFERENCE OF THE AMA, LOS ANGELES, CALIFORNIA

December 2 to 3, 1951

PART II

The second day of the conference was called to order by Dr. Joseph McCarthy, Omaha, Nebr., with opening remarks relative to the cost of sickness, which was the theme of the Monday session.

Dr. McCarthy commented on the need of clarifying in the minds of the public the difference between fees for physician service as against the total cost of medical care, hospital, drug, etc. He stated "there is only about one per cent of the profession who are guilty of unethical conduct." He believes efforts of the profession should be guided toward bringing these few offenders in line.

The first panel member on Monday was Dr. Harlan A. English, Danville, Ill., who discussed "Fees Should Be No Mystery."

Dr. English began his talk by quoting a phrase from the Bible, "The love of money is the root of evil," and proceeded to discuss the need for more medical economics training in the medical schools. He believes the doctors entering practice should have a better understanding of the economics of medicine. The physicians in a county society should bring the new physicians in and counsel with them on fees for service and other matters relating to medical economics.

Dr. English believes there are three questions in the minds of patients which need answering in most every case. (1) Doctor, can it be fixed? (2) How long will it take me to get well? (3) What will be the cost? Two of the questions relate to scientific medicine, the other to economics, and according to Dr. English, they all are of equal importance and deserve attention by physicians.

Dr. English suggests that each county medical society establish standard fees for service as a guide for all the physicians both new and old. He believes a physician should adhere to the standard fee schedule in most instances and when a patient

indicates inability to pay, the physician should render service without charge rather than accept a fee less than the fee schedule. He re-emphasized the need for a free and open discussion with the patients, relative to charges and suggested that the office secretary make a record of an agreed upon method of paying the bill. Then if the patient doesn't respond you have this record to call to his attention. Dr. English believes that no more than one month's salary, after taxes, should be charged for any major surgery. Fee splitting is bad and should be discouraged when it exists and physicians should display the plaque of the AMA which invites patients to discuss fees with them freely. Give the patient first consideration in diagnosing, treating and charging for services.

"Explaining Those 'Other' Medical Expenses" was the subject assigned Dr. Cyrus W. Anderson, Denver. Dr. Anderson used the example of the traveling salesman in comparing hospital costs to those in a private hotel. "Most traveling men would be willing to pay \$12.00 per day for their hotel room if they had all their meals included and a back rub before retiring," he said. In his opinion, this is a comparison that can be made in refuting those who believe hospital rates to be too high. Dr. Anderson said that he had observed the records of a physician who practiced in 1871 and they indicated that his charge for an office visit at that time was \$3.00, which is the fee charged in many physician's offices today. At that time butter sold for 20 cents per pound and coffee was also 20 cents per pound. This would indicate that medical fees have not kept pace with other rising costs. He discussed at some length the Medical-Radio-Press Code which was developed in Colorado and encouraged other state societies to develop a similar agreement. "It has a real value in public education," he stated. Dr. Anderson recommends that a physician take time to explain the routine services which are done in hospitals and that the reason for blood test, urinalysis, tissue examination be told to the patient. He believes they will be less likely to complain if they understand the reasoning behind making these services routine instead of a steady source of income for the hospital. "When an inexpensive drug is effective, discourage the use of the more expensive," he said. He referred to a recent article in the *Journal of the Iowa State Medical Society* which dealt with doctor cooperation in reducing Blue Cross-Blue Shield expenses. "In my opinion no physician is too busy to discuss matters fully with his patient, and if he believes he is too busy he should make an effort

to cut down," Dr. Anderson said. The patient should be advised who is to give the anesthetic and why he was chosen. This gives the physician an opportunity to show real personal interest in the patient's welfare. The patient should also be taken into consideration when a consultant is called, with an explanation of charges he may anticipate. It seemed to be this speaker's opinion that improved medical public relations greatly depends on improved doctor-patient relations. There seemed to be considerable agreement that if individual doctor-patient relations can be improved the public relations will take care of itself.

In the absence of Dr. Stanley R. Truman, Ventura, Calif., another California physician read his paper. His subject "Time Is Money for Your Patients, Too." As is indicated in the title, this paper had reference to scheduling appointments and public relations value in the physician's making every effort to keep them or offer an adequate excuse. Dr. Truman's paper made these suggestions:

1. Establish a comfortable reception.
2. Schedule appointments and be realistic in scheduling them.
3. Observe the telephone technique of the persons answering the phone. Answer phone promptly. Have the most personable person in your office answer the phone.
4. Recognize the patient's arrival in your office. Have your receptionist greet your patients with a warm smile and make them feel welcome. If she hasn't this quality, dismiss her.
5. If the doctor is called from the office suddenly, explain to the patients the length of time they will have to wait.
6. Recognize the importance of a patient's presence.
7. Train each new secretary and nurse in the manner which you want the patients to be received and treated while in your office.
8. Get your office people together at least once a month and discuss your office operation.

"Joining Forces With Other Groups" was the subject of discussion at the afternoon session. Dr. Ernest B. Howard, Assistant Secretary of the AMA, began the panel discussion by reporting on relations with other groups at the national level. He spoke of activities with the American Hospital Association, National Grange, Commission on Chronic Illness, National Conference on Rural Health, Civil Defense, national publications, press services, National Service Organizations, American Legion, etc. He stated that the primary objective of maintaining these activities with other national organizations was to keep them informed on the policies of the American Medical Association, and to cooperate and assist when needed. In his remarks he emphasized the importance in the American Medical Association maintaining a non-partisan position in all political matters.

The next subject of discussion was "State-Wide

Organizations and the Medical Society." This was discussed by Dr. Willis H. Huron, Iron Mountain, Mich. Dr. Huron suggested a formula for freedom and his talk was constructed around these three requirements: (1) Know yourself. (2) Know how to live. (3) Know your government. Adherence to these three requirements should solve many of our public relations problems, Dr. Huron stated.

The final speaker on this panel was Dr. George Schwartz, New York, who discussed "The Doctor in Community Affairs." He commented on the need of physicians taking an active part in all community affairs. Local matters of health, venereal disease drives, sanitation, sewage, flood control, examination of school children, American Legion and service group activity. He mentioned many other projects to which Iowa physicians are already devoting their time and effort, so it doesn't seem they need repeating.

The last panel of the conference discussed "Where Do We Go From Here?" Mr. Leo E. Brown, Director of Public Relations, American Medical Association, was the first speaker on the panel, on "Your AMA's 1952 PR Program."

The program for 1952 has been divided into two parts—internal and external relations. Internal relations pertain to relations with other groups and with individual physicians while the external relations pertain to public and other group relations.

In order to gain public support, the AMA intends to inform the American people of the American Medical Association's policies on all matters of public interest.

To make an effort to gain greater support from the members of the AMA.

Improve individual doctor-patient relations.

The above to be accomplished by the following:

Tell the American Medical Association's story to the public and physicians.

1. Weekly news releases to all the press services.
2. Advise the doctors and public of services rendered by the councils and committees of the American Medical Association.
3. Challenge mis-statements concerning American medicine.
4. Make the most of every feature story opportunity.
5. Distribute timely, well prepared literature to the profession and specific groups.
6. Continue distribution of the pamphlet "A Doctor for You."
7. A series of brochures telling the profession more about the AMA.
 - a. You and Your AMA.
 - b. How the AMA Serves the Public.
 - c. Cost of Medical Care.
 - d. Code Your Doctor Lives By.
 - e. Help Yourself to Health.

(Continued on page 76)

BLUE CROSS



BLUE SHIELD



"You don't mind mixing business with pleasure, do you, Doctor?"

VA ANNOUNCEMENT

Effective as of January 15, 1952 prescriptions issued by Fee Basis Physicians for alcoholic beverages are not authorized by the Veterans Administration. To quote from the TWX received from VA headquarters, Washington, D. C., "with other suitable recognized therapeutic agents available, whiskey and other alcoholic beverages are not considered appropriate for prescription order for outpatient use." State pharmaceutical associations have been advised not to accept prescriptions for alcoholic beverages after January 15, 1952. Prescriptions accepted in good faith and filled prior to that date may be processed for payment if otherwise in order.

NEW FIELD REPRESENTATIVE

Mr. Douglas S. Majury, 31, of Des Moines has joined the Physician Relations staff of Iowa Medical Service (Blue Shield) as a Field Representative. Mr. Majury began his new activity January 2

following four years employment with Hospital Service Inc. of Iowa (Blue Cross). However, during this period of employment with Blue Cross, he was on military leave for one year with the army in Korea. He was recalled to active duty from reserve status November, 1950 and served almost the entire time in Korea until his discharge in November, 1951 at which time he returned to his former employment with Blue Cross. Mr. Majury also served five years in World War II. He is married, has one child, and makes his permanent residence in Des Moines. He was educated in Chicago, Ill., and attended Drake University. Mr. Majury will travel throughout the state of Iowa performing the duties of a Physician Relations representative for Blue Cross and Blue Shield.

We welcome comments and suggestions from the medical profession in regard to Blue Cross-Blue Shield. These comments need not necessarily refer to the matters covered under this section on Blue

(Continued on page 79)

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. HOWARD W. SMITH, Woodward

President-Elect—MRS. J. DONALD HENNESSY, 205 Frank St., Council Bluffs

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION LEGISLATIVE PROGRAM, 1951-52

Last year's legislative effort on the part of the Woman's Auxiliary to the American Medical Association accomplished very satisfactory results. Although the Administration's effort to socialize medicine has been thwarted so far, the issue is not dead, and other means will be attempted by the Administration to carry out its program through devious ways. Our organization must be constantly informed of new legislation, and all efforts should be directed toward keeping our membership actively alerted to prevent the Administration's program to socialize medicine.

We must put the fight against socialized medicine on our agenda as permanent unfinished business. Legislation participation starts with the Washington office. Keep track of all new bills with medical implications introduced in the Senate or House. Women, in order to talk intelligently, must be informed. Dr. Joseph S. Lawrence, Director of the AMA Washington Office, 1523 L Street, N.W., Washington 5, D.C., will send copies of the Washington legislative *Bulletin* and *Capitol Clinic* to each legislative chairman, county and state, as soon as his office receives the name and correct mailing address of the chairman. The *Bulletin* is a legislative newsletter, which will keep you up-to-date on Washington legislation. The *Capitol Clinic* is a short résumé of medical developments in Washington of interest to the medical profession and is not confined to legislation. Names of county chairmen should be forwarded through the state chairman to the Auxiliary executive secretary, Miss Margaret Wolfe, 535 N. Dearborn Street, Chicago 10, Ill. The *Bulletin* and *Capitol Clinic*, as well as other material published by the AMA and the State Medical Society should not only be read, but studied, so that the auxiliary members will know the difference between the several bills as they appear, and the opinion of the medical profession on these bills.

County legislation chairmen should be prepared to lead discussions and bring information to their groups. Try to be allowed at least ten minutes on every county program so that you are able to tell the latest developments in Washington re-

garding pending legislation affecting the medical profession. Watch carefully all legislative activities in all organizations, local, state and national. Participate in all these.

In our every day lives, Auxiliary members have countless opportunities in community organizations to influence public thinking and action and help spread the medical profession's viewpoint on proposed legislation for medical care and public health services in the nation. Cooperation with county and state medical societies, and with other communities in the Auxiliaries, such as, recently expanded, public relations and program, is essential. Furnish information to your medical society of the time, place, and name of program chairman of important meetings, on state and county levels, of such organizations as the Federated Women's Clubs, American Association of University Women, Parent-Teachers Association, large church sessions, etc., so that speakers on timely legislative matters can be supplied.

What tools can we use effectively, (1) The ballot—and be sure your relatives and friends vote at all elections. (2) Study groups, as advocated for years, out of which could grow panels of well informed, able speakers, available to present discussions before women's clubs, church societies, etc., with the approval of the State Medical Society. (3) AMA publications that are, or should be, in every doctor's home; the *Journal of the American Medical Association*, where "Washington Letters" keep us abreast of the happenings in Congress and "Medical Legislation" lists bills and shows the trends in State Legislatures; state and county medical periodicals that emphasize state interests.

Be sure to maintain friendly relations with elected legislators or congressmen, who are trying hard to represent the viewpoints of their constituents. Visit your Congressmen back home, or write honest, sincere letters in your own handwriting. A letter sincerely written is always placed on his desk. Most important, be sure to write and express appreciation and register approval of his vote.

Keep in mind the four pillars for success: Work save, pray, and VOTE.

MRS. EDGAR E. QUAYLE, *Chairman*

PUBLICATION PONDERINGS

We cannot lessen our efforts in regard to medical legislation. Only a few short weeks ago, Oscar Ewing, Federal Security Administrator, addressing the 31 Negro Civic Associations in Washington said, "I believe there are people in this country who do not care whether we have enough doctors to go around—who do not want to see any serious steps taken to relieve the shortage of doctors. I believe there are people in this country who do not understand, and do not want to understand, the crying cost of medical care. The threat to the liberal American idea lies in a refusal to recognize what this can mean in the way of privation, of financial disaster, and even of lives lost . . . there is a threat to our very survival in the refusal to recognize that these problems exist . . . or, worse yet, in recognition without any desire to find a solution."

Capitol Clinic, December 11, 1951

On the other hand, Senator Taft, addressing the American Medical Association in Los Angeles, had this to say: "The American Medical Association has taken the lead in opposing this trend, and the doctors are justified in this because the key move of the socialists today is the effort to set up a federal system of socialized medicine.

"The government proposes to collect six or seven billion dollars, mostly in payroll taxes from workmen, and set up a vast federal bureau to employ nearly all the doctors in the country to furnish free medical service to all the people, including the great majority who are perfectly able to pay for it themselves.

"Socialized medicine would cost annually six to ten billions, and the way costs are going today it might even reach 18 to 20 billions. We cannot impose on the hard-working people of this country a burden so great to support the non-workers that it reduces their incentive and their standards of living. With the tremendous military spending we now face, I doubt if we should undertake any additional program no matter how meritorious."

Des Moines Register, December 6, 1951

And from Oscar Ewing's home state, Indiana, comes the following excerpt by Julia Caylor in "The Hoosier Doctor's Wife," December, 1951:

We have now 80,000,000 enrolled in Voluntary Health Insurance plans and the number is ever growing. The AMA campaign against Compulsory Health Insurance has cost out of Medicine's own pocket \$1,500,000 yearly. Mr. Ewing's Federal Security Administration is spending out of the taxes many times this amount for its own propaganda and advocating Compulsory Health Insurance. There are 3,400 Federal Publicity employees who cost us from taxes \$105,000,000 yearly to circulate their products. The Hoover Commission found that \$75,000,000 a year could be saved if Govern-

ment publicity was overhauled in the interests of economy. Whatever is spent, the public relations money should go for factual information, NOT PROPAGANDA.

"The price of freedom is eternal vigilance. The AMA and the Indiana State Medical Society are again asking our help in the Campaign for Freedom. Nineteen hundred and fifty-two, election year, promises to be a critical one for Medicine. There are only 533 elective offices in the Federal Government with only two elective offices in the whole Executive Branch of our Government. There are in turn millions appointed by them who reflect their thinking and their policies.

"We stand for no person—no creed—no party—we stand for a principle, a faith in ourselves and in our American Freedom. We have not done enough. We can do more. Count well our numbers and enlist the millions who believe as we do in our AMERICAN FREEDOM."

"Busy members of the medical profession are inclined to ignore their civic responsibilities. We hope you—our mentors (The Auxiliary) will set us sternly at the task of being better citizens. We know this is vital, and that it is the only way in which we can correct the ills that have come through our negligence."

L. Weston Oaks, M.D.

President, Utah State Medical Association

Mrs. Keith M. Chapler, *President.*

"I GET IDEAS"

We have added the following states to our Auxiliary News exchange: Georgia, Indiana, South Dakota and Utah. This brings the present total to 15. It is impossible to read Auxiliary News from other states and not get ideas. Seemingly, Iowa is among the fortunate few in having a monthly publication since many states have only four annually.

Georgia published its first Auxiliary News in October, 1951. Iowa's dates back to 1938. Publication and financing are carried on in various ways, too. The Blue Cross and Blue Shield in Utah take care of the postage and mailing of the Auxiliary News Letter.

South Dakota has the following state goals:

1. To increase membership.
2. To achieve a quota of one subscription per member to *Today's Health*.
3. To increase subscribers to *The Bulletin*. All officers should consider it a MUST.
4. To maintain regular district meetings with active programs.

The South Dakota Auxiliary suggests that *Today's Health* be sent to each grade school teacher for classroom health work. Also, that *Today's Health* be sent to a "new" mother or an "old" one.

The members of District 4 in South Dakota send

their unused books to the TB Sanatorium at Sanator.

One dollar of the state dues in South Dakota and 50c per member per doctor have built up a \$4,000 fund after ten years. When it reaches the \$5,000 mark, it will be used as a scholarship fund for medical students and an aid fund for needy doctors.

"He who will enkindle a fire in others, will himself glow."

COUNTY AUXILIARY ACTIVITIES

Thirty five members of the Black Hawk County Auxiliary attended the "chapeau" party on December 4 at the home of Mrs. Henry A. Bender, Waterloo. Dr. and Mrs. Rudolph F. Nielsen, Cedar Falls, prepared a Christmas centerpiece as first prize for the most original hat. Mrs. Don H. Penly, Cedar Falls, won first prize and Mrs. George Hearst, also of Cedar Falls, won second prize. A review of the year's activities was presented by the program chairman, Mrs. Gardner D. Phelps, Waterloo.

In November Mrs. Cornelius B. Murphy, Alton, member of the Sioux County Auxiliary, promoted nurse recruitment by showing the film "This Way to Nursing" to students of the Sioux Center High School.

Dr. Phillip F. H. Pugh of Sioux City was the speaker at a joint meeting of the Sioux County Medical Society and Auxiliary on December 10. His topic was "The Emotional Needs of Children" and he amplified the subject by showing a film.

The Webster County Auxiliary held its annual meeting and election of officers following a dinner December 4 at the Hotel Warden in Fort Dodge. Officers elected for 1952 are: president, Mrs. Emerson B. Dawson; vice president, Mrs. Otto N. Glesne and secretary-treasurer, Mrs. Charles J. Baker, all of Fort Dodge.

Members of the Dallas-Guthrie Auxiliary met November 29 at the Hotel Pattee in Perry. Following luncheon with the doctors, officers were elected for 1952. They are as follows: President, Mrs. Frank A. Wilkie, Perry; Vice-President, Mrs. William C. Wildberger, Perry; First Vice-President, Mrs. Robert F. Deranleau, Perry; Second Vice-President, Mrs. Harold C. Field, Guthrie Center; Secretary, Mrs. Donald W. Todd, Guthrie Center and Treasurer, Mrs. Charles A. Nicoll, Panora. Mrs. Margaret Fizzimmon of Adel gave a talk about her work with handicapped children.

The Delaware County Auxiliary has elected the following officers for 1952: President, Mrs. Paul G. Meyer, Manchester; Vice-President, Mrs. James

K. Stepp, Manchester; and Secretary-Treasurer, Mrs. John E. Tyrrell, all of Manchester.

Members of the Webster County Auxiliary held a luncheon meeting October 18 at the Warden Hotel in Fort Dodge. The 1951 Craft and Hobby Show proved to be a tremendous success, \$515 worth of merchandise made by the handicapped was sold. A similar show will be held in 1952.

NEWS NOTES

(Continued from page 72)

An additional activity of the PR Department will be the field work of Mr. Lawrence Rember, who will meet with various committees of constituent medical societies to assist them in developing sound public relations programs.

The remaining members of the panel discussed state, county and individual physician relations which have been covered earlier in this report so the accounts of these talks will not be included. The PR programs encouraged in these talks were: (1) The promotion of Voluntary Health Insurance. (2) County medical-radio-press relations. (3) Intraprofessional relations. (4) Interprofessional relations. (5) Doctor-patient relations.

The attendance at this conference was excellent and was maintained throughout the two day period. The number of representatives from each state who attended the conference should indicate the apparent interest of medical societies in public relations.

TELEVISION SCHEDULE

WOI-TV at 9:30 p. m.

Wednesday, February 13.....Headache
Wednesday, February 27.....Diet (2)

SPEAKER'S BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a. m.

GOLD MEDAL DOCTORS

February 7.....Allen O. Whipple

THE DOCTOR'S REPORT

February 14.....The American Doctor Today
February 21.....The Arthritis Problem
February 28..Surgery in Congenital Heart Disease

WSUI—Tuesdays at 11:45 a. m.

THE DRUGS YOU USE

February 5.....A Look to the Future

GOLD MEDAL DOCTORS

February 12.....Rudolph Manger
February 19.....James B. Harrick
February 26.....Chevalier Jackson

STATE DEPARTMENT OF HEALTH

Walter Diering

SEMI-ANNUAL SUMMARY OF COMMUNICABLE DISEASES

July 1, 1951 to January 1, 1952

While 1951, with the last six months continuing the pattern of the first six, produced no major epidemics in Iowa, it did produce enough infection of such degree and variation as to keep all hands busy.

Ringworm of the scalp continues as a nuisance disease among school groups. The latest epidemic area detected is Hancock County with about 40 cases at Britt. Many of our County Public Health nurses and School nurses are including inspections of the scalp with the Wood light in their early fall school health program. In counties where scalp ringworm is known to have been prevalent, as in Mahaska County, county-wide examinations were made by nurses in August. To date, only *M. audouini*, the human form of the infection, has been demonstrated in material submitted from the different counties for culture.

Rabies and brucellosis continue to be first level problems. Anthrax, another animal disease, after long absence from Iowa, has recently returned. Several outbreaks of the disease have been identified at the Veterinary Diagnostic Laboratory at Iowa State College, Ames. Illinois and Missouri are also reporting the disease in horses and cattle. Anthrax, like rabies, becomes a human problem, increasing as the incidence increases in the animal reservoir. Iowa's first reported case of human rabies since 1944 occurred in Des Moines during the past summer.

With over 95 per cent of Iowa's babies born in hospitals it is not too surprising that epidemic diarrhea of the newborn should appear at intervals. This Division has teamed up with representatives from Maternal and Child Health and the Division of Hospital Services and offered help to two large hospitals where the infection has appeared. It is especially encouraging to us to observe that when rigid control measures were established spread of the infection was stopped.

Infectious hepatitis is definitely becoming a large scale problem in Iowa, as in many other states. Our area of heaviest infection is in the southeast

quarter of the state. Physicians are using Gamma Globulin both for treatment of the case and for prophylaxis. The problem is increasing throughout the United States to the extent that special committees are being organized to investigate control procedures.

A case of histoplasmosis was diagnosed from Jackson County during the summer by Dr. Borts at the State Hygienic Laboratory. The United States Public Health Service is helping with the field investigations. To date, soil from the farm home of the case has yielded the organism and positive serology tests have been obtained from two persons living on the farm. The Public Health Service is planning to aid us in a skin testing and chest filming program in the area since cases are currently being reported from southeast Minnesota, northern Illinois, southern Wisconsin and northwest Indiana.

After three years of unusually high incidence of poliomyelitis, rates were comparatively low during 1951. Our 457 cases were reported from 87 counties with only 4 counties reporting more than 15 cases. We hesitate to predict figures for 1952 as many of our south central and southeastern counties, not reporting high incidences since 1939-1940, have either reported a few cases or are adjacent to areas of infection.

A small increase of typhoid fever was noted. The provisional number of cases of typhoid fever for 1951 now stands at 31 as compared with 9 cases for 1950.

BRUCELLOSIS OR UNDULANT FEVER 1946-1951

| Year | Cases | Deaths | Year | Cases | Deaths |
|---------------------------------------|-------|--------|-------|-------|--------|
| 1946 | 638 | 1 | 1949 | 377 | 2 |
| 1947 | 902 | 1 | 1950 | 549 | 0 |
| 1948 | 412 | 0 | 1951* | 481 | 0 |
| * (provisional, first 11 months 1951) | | | | | |

DIPHTHERIA IN IOWA 1946-1951

| Year | Cases | Deaths | Year | Cases | Deaths |
|---------------------------------------|-------|--------|-------|-------|--------|
| 1946 | 187 | 16 | 1949 | 32 | 1 |
| 1947 | 100 | 3 | 1950 | 24 | 5 |
| 1948 | 60 | 2 | 1951* | 14 | 1 |
| * (provisional, first 11 months 1951) | | | | | |

SMALLPOX IN IOWA 1946-1951

| Year | Cases | Deaths | Year | Cases | Deaths |
|------|-------|--------|-----------------|-------|--------|
| 1946 | 15 | 0 | 1949 | 0 | 0 |
| 1947 | 3 | 0 | 1950* | 2 | 0 |
| 1948 | 0 | 0 | 1951 | 0 | 0 |
| | | | * (unconfirmed) | | |

TYPHOID FEVER IN IOWA 1946-1951

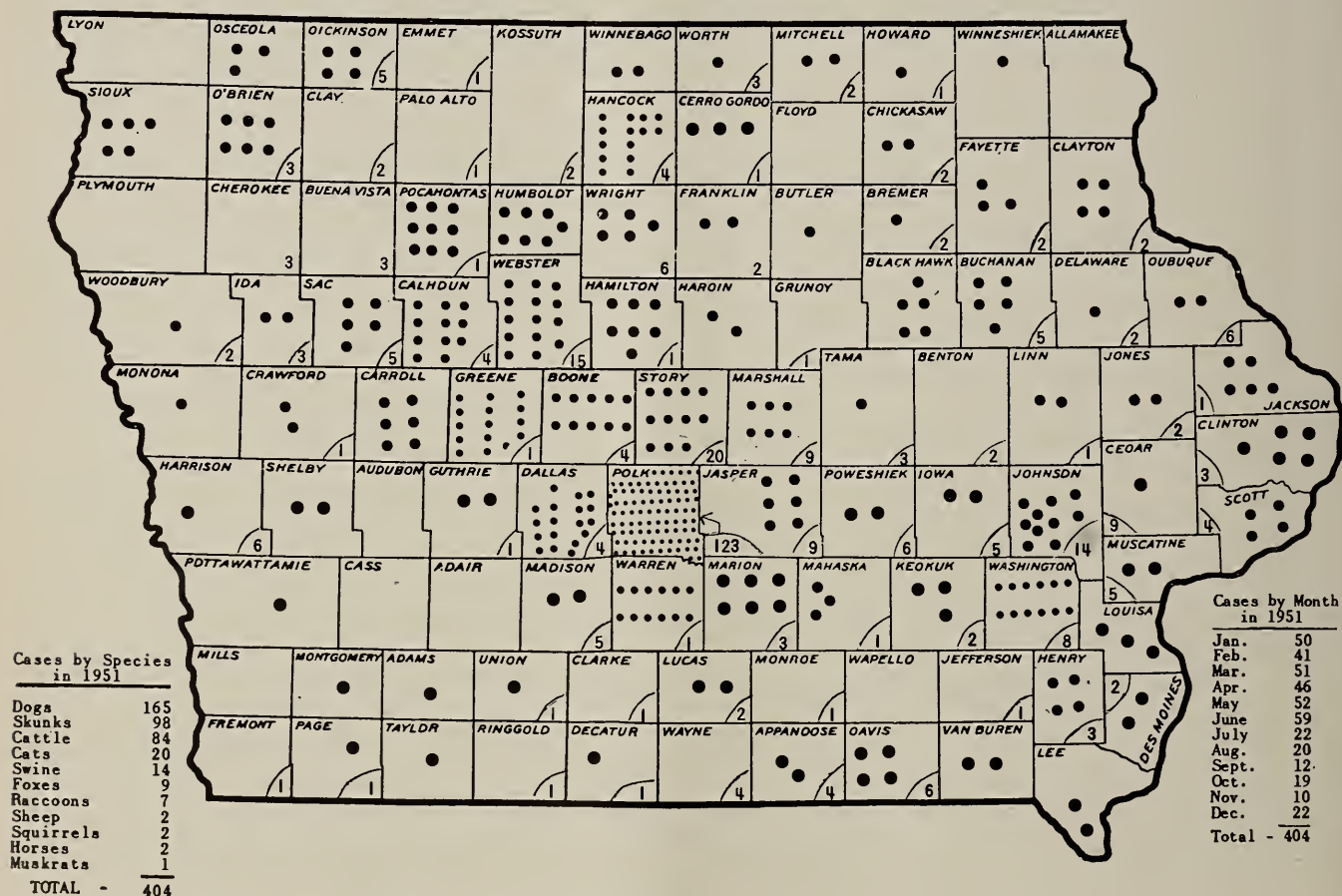
| Year | Cases | Deaths | Year | Cases | Deaths |
|------|-------|--------|---------------------------------------|-------|--------|
| 1946 | 48 | 3 | 1949 | 7 | 2 |
| 1947 | 46 | 1 | 1950 | 9 | 1 |
| 1948 | 21 | 3 | 1951* | 31 | 0 |
| | | | * (provisional, first 11 months 1951) | | |

RABIES IN ANIMALS IN IOWA IN 1951

During 1951 there were 404 cases of rabies in animals reported from 76 counties as compared with 373 cases from 72 counties in 1950. Many more cases were reported among dogs than any other species, but the number of reported rabid skunks and cattle also was high. Rabies control programs including elimination of stray dogs, annual vaccination of all owned dogs, and a quarantine period have been effective in reducing the incidence of the disease among dogs in many com-

Distribution by County of Reported Cases.
Each black dot represents a 1951 case.

The numbers in the counties indicate the cases reported in 1950.



munities. In 1951, Webster, Polk and Calhoun counties and many cities and towns in the state instituted control programs. There have been no cases of rabies reported among dogs that have had an annual anti-rabies vaccination.

ANNUAL SUMMARY OF REPORTED CASES

| County | Species of Animals |
|---------------|---|
| Adams | 1 skunk |
| Appanoose | 2 skunks |
| Black Hawk | 2 cattle, 3 skunks |
| Boone | 2 cattle, 5 dogs, 2 skunks, 1 hog |
| Bremer | 1 skunk |
| Buchanan | 5 skunks |
| Butler | 1 cat |
| Calhoun | 2 cattle, 3 dogs, 6 skunks |
| Carroll | 2 cattle, 2 dogs, 1 skunk, 1 cat |
| Cedar | 1 cow |
| Cerro Gordo | 2 cattle, 1 skunk |
| Chickasaw | 1 skunk, 1 cow |
| Clayton | 3 skunks, 1 fox |
| Clinton | 3 cattle, 1 dog, 1 skunk |
| Crawford | 2 cattle |
| Dallas | 4 cattle, 10 dogs, 1 skunk, 1 swine, 2 sheep |
| Davis | 3 cattle, 1 skunk |
| Decatur | 1 skunk |
| Delaware | 1 skunk |
| Des Moines | 2 skunks |
| Dickinson | 1 cow, 3 skunks |
| Dubuque | 1 skunk, 1 fox |
| Fayette | 2 skunks, 1 cat |
| Franklin | 1 cow, 1 skunk |
| Greene | 7 cattle, 5 dogs, 2 skunks, 1 swine |
| Guthrie | 2 skunks |
| Hamilton | 5 dogs, 1 muskrat, 1 hog |
| Hancock | 5 cattle, 4 skunks, 1 squirrel, 1 hog, 3 cats |
| Hardin | 1 cow, 1 skunk |
| Harrison | 1 skunk |
| Henry | 1 skunk, 1 cat, 1 horse, 1 fox |
| Howard | 1 fox |
| Humboldt | 2 cattle, 2 skunks, 2 cats, 1 fox |
| Ida | 2 cattle |
| Iowa | 2 skunks |
| Jackson | 1 fox, 4 raccoons |
| Jasper | 5 cattle, 1 dog |
| Johnson | 2 cattle, 1 dog, 4 skunks, 3 swine |
| Jones | 1 cow, 1 skunk |
| Keokuk | 2 skunks, 1 dog |
| Lee | 1 dog, 1 fox |
| Linn | 1 skunk, 1 dog |
| Louisa | 3 skunks |
| Lucas | 1 skunk, 1 cat |
| Madison | 2 cats |
| Mahaska | 1 cow, 1 raccoon, 1 fox |
| Marion | 2 dogs, 2 skunks, 1 hog, 1 cat |
| Marshall | 1 cow, 3 dogs, 1 skunk, 1 hog |
| Mitchell | 1 dog, 1 sunk |
| Monona | 1 skunk |
| Montgomery | 1 cow |
| Muscatine | 1 cow, 1 horse |
| O'Brien | 3 cattle, 3 skunks |
| Osceola | 3 skunks |
| Page | 1 raccoon |
| Pocahontas | 1 cow, 3 dogs, 4 skunks, 1 cat |
| Polk | 2 cattle, 86 dogs, 1 cat, 1 swine, 1 raccoon |
| Pottawattamie | 1 cat |
| Poweshiek | 1 cow, 1 cat |
| Sac | 1 hog, 1 cow, 2 skunks, 1 dog |
| Scott | 2 cattle, 1 skunk, 1 squirrel |
| Shelby | 2 cattle |
| Sioux | 1 dog, 4 skunks |
| Story | 2 cattle, 5 dogs, 1 cat, 2 swine, 1 skunk |
| Tama | 1 cow |
| Taylor | 1 cat |
| Union | 1 skunk |
| Van Buren | 1 skunk, 1 fox |
| Warren | 1 cow, 10 dogs, 1 cat |
| Washington | 8 cattle, 1 dog, 3 skunks |
| Webster | 1 cow, 13 dogs |
| Winnebago | 1 cow, 1 skunk |
| Winneshiek | 1 cow |
| Woodbury | 1 dog |
| Worth | 1 cow |
| Wright | 1 cow, 2 dogs, 2 skunks |

MORBIDITY REPORT

| Disease | Dec. 1951 | | | Most cases reported from: |
|-------------------|-----------|-----------|------|--|
| | Nov. 1951 | Dec. 1950 | 1951 | |
| Diphtheria | 2 | 2 | 3 | Cerro Gordo, Page |
| Scarlet Fever | 40 | 60 | 73 | Boone, Polk, Woodbury |
| Typhoid Fever | 1 | 4 | 3 | Pottawattamie |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 93 | 7 | 16 | Page, Woodbury |
| Whooping Cough | 26 | 17 | 42 | Black Hawk, Des Moines, Scott, Woodbury |
| Brucellosis | 34 | 20 | 52 | Cerro Gordo, Hamilton, Dubuque, Pocahontas 2 each. Polk 3, others scattered, 1 each. |
| Chickenpox | 290 | 155 | 280 | Black Hawk, Boone, Clinton, Woodbury |
| Meningitis, men | 6 | 7 | 3 | Polk (2), Story (2), Marion, Scott 1 each |
| Mumps | 184 | 122 | 164 | Black Hawk, Des Moines, Linn, Woodbury |
| Pneumonia | 8 | 1 | 13 | Boone 2, others scattered, 1 each |
| Poliomyelitis | 9 | 25 | 70 | Chickasaw (4), others scattered 1 to a county |
| Rabies in Animals | 22 | 10 | 33 | Greene 2, Polk 6, others 1 to a county |
| Tuberculosis | 50 | 64 | 96 | For the State |
| Gonorrhea | 55 | 53 | 65 | For the State |
| Syphilis | 157 | 131 | 167 | For the State |

BLUE CROSS—BLUE SHIELD

(Continued from page 73)

Cross-Blue Shield. Your views will be greatly appreciated. Send them to the Physician Relations Department, Iowa Medical Service, 324 Liberty Bldg., Des Moines, Iowa.

BLUE SHIELD MONTHLY STATISTICS

December 1, 1951

| | |
|------------------------------|--------------|
| Blue Shield Members | 310,090 |
| Claims Processed for Payment | 5,467 |
| Amount Paid in Claims | \$175,240.75 |

NATIONAL CONFERENCE ON MEDICAL SERVICE

The Twenty-Fifth Annual Meeting of the National Conference on Medical Service will be held February 10 at the Palmer House in Chicago, Ill. Topics to be discussed include: "Care of the Aged With Chronic Disease," "The High Cost of Hospital Care" and "Veterans' Medicine." All Iowa physicians are invited to attend the meeting.

SIoux VALLEY MEDICAL SOCIETY

The Annual Meeting of the Sioux Valley Medical Society will be held February 26 to 28 in Sioux Falls, S. D.

Iowa Academy of General Practice

President—Cecil V. Hamilton, M.D., 145 E. 4th St., Garner

President-Elect—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

Vice President—Ivan T. Schultz, M.D., 106 N. Taft St., Humbolt

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

1952

By this time all the good intentions resolved on New Year's Day have had ample time to be relegated to the limbo of forgotten things. The turkey and the goose have been digested. The intemperances of the great Holidays have been righted. It is now time to do a little sober reflection on the problems presented by the new year and how we should meet them.

Everyone has his own particular personal problems to face, but we, as doctors, have a community of interests, problems and responsibilities that we cannot slough off lightly. We must carry on the obligations and duties of a profession and a business. Our lot in the past has been to accept both accolades and malignments, but even under criticism, we go on listening to the stories of people's maladies and maladjustments, and at the end of each year every one of us would be willing to stand judgment on the facts of the good deeds we have performed, the lives we have saved, the fears we have allayed, the pains we have relieved, and the family circles that have remained unbroken through acceptance of our wise and experienced counsel. It does not matter whether the year is 1952, 1962 or 1972, our accomplishments will be at least these, and only the good Lord knows what more.

For many years we have been organized into a guild-like group for the purpose of improving the quality of our services to the people, by searching for new facts and the dissemination of those facts to all doctors for the benefit of all people. All was well. Then the clouds began to gather and someone conceived the idea that into the maelstrom of a dastardly political plan the doctors should be cudgeled and beaten, to appease the gaping maw of their plan. The people were promised that they could have their own doctor, but they need not worry about paying their doc-

tor bills. The doctor, with his usual diagnostic acumen, saw the perfidy of the scheme, and rose with his own money, not the people's, and deflected the course of the planners. Neither the planners nor the doctors prepared the people for this sort of ending of the utopian scheme, with the result that the people were left dazed and confused. We were not given just credit for saving another life, that of our nation.

So in the year ahead our duty is cut out for us. The medical profession must make the people realize that we are fundamentally the same men that doctors always have been, but better prepared to take care of them, and still interested only in their welfare, in fact, all phases of their welfare. They must be made to realize that doctors are entitled to their esteem now as always. Let us continue our efforts to keep abreast of the advancements in our profession. Let us take more interest in the activities of our medical organizations. Let us do our share as individuals and as an organization of doctors to correct the falsities that have been spread against us. The people must know "the laborer is worthy of his hire."

ACADEMY MEETINGS

The next session of the Iowa Academy of General Practice will be the annual business meeting and election of officers in April. Announcements concerning this will be forthcoming in ample time.

The schedule of scientific programs will be resumed next September. We hope the meetings in the past have met with your approval, and unless some of you present a better idea, it will be our intention to offer the next winter's post-graduate courses in a similar pattern. Remember, the officers are trying to represent you. They sincerely desire to do what will benefit all of you as far as it is humanly possible. Your comments, suggestions, and criticisms will be welcomed. Write a card or letter to any of the officers and be assured that your voice will be heard.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE BATTLE FOR MENTAL HEALTH, by James C. Moloney, M.D., Philosophical Library, New York, 1952. Price \$3.50.

PENICILLIN DECADE, 1941-1951, Sensitizations and Toxicities, by Lawrence W. Smith, M.D., Medical Director, Commercial Solvents Corporation; and Ann D. Walker, R.N., Former Editor, *Trained Nurse and Hospital Review*. Ardel Press, Inc., Washington, D. C., 1951. Price \$2.50.

REHABILITATION NURSING, by Alice B. Morrissey, B.S., R.N., Instructor in Rehabilitation Nursing, New York University-Bellevue Medical Center; Supervisor of Nursing Service, Department of Physical Medicine and Rehabilitation, Bellevue Hospital; foreword by Howard A. Rusk, M.D., Professor and Chairman of the Department of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center; Associate Editor, *The New York Times*. G. P. Putnam's Sons, New York, 1951. Price \$5.00.

UNTOWARD REACTIONS OF CORTISONE AND ACTH, by Vincent J. Derbes, M.D., F.A.C.P., Associate Professor of Medicine, Tulane University of Louisiana School of Medicine; Head of the Department of Allergy, Ochsner Clinic, Visiting physician, Charity Hospital of Louisiana, New Orleans; staff member, Foundation Hospital, New Orleans, La.; and Thomas E. Weiss, M.D., Instructor in Medicine; Member of Department of Medicine, Ochsner Clinic; Visiting physician, Charity Hospital of Louisiana, New Orleans; and staff member, Foundation Hospital, New Orleans, La. Charles C Thomas, Publisher, Springfield, Ill., 1951. Price \$2.25.

BOOK REVIEWS

PENICILLIN DECADE, 1941-1951, Sensitizations and Toxicities, by Lawrence W. Smith, M.D., and Ann D. Walker, R.N. (Ardel Press, Inc., Washington, D. C., \$2.50).

The authors have succinctly presented a review of the use of penicillin during the past decade with most interesting results. They have reviewed the use of the drug in the relation to medical and surgical specialties as well as isolated clinical entities. All physicians would do well to read this excellent monograph not only to review the role of penicillin in treatment but to share with the authors their predictions for the future.—E. M. George, M.D.

PRACTICAL CLINICAL PSYCHIATRY, by Edward A. Strecker, M.D., Franklin G. Ebaugh, M.D. and Jack R. Ewalt, M.D. (The Blakiston Co., Philadelphia, \$7.00).

This textbook of psychiatry, now in its seventh edition, has been popular with medical students and psychiatric residents since 1925. As its title implies, it is intended to serve "practical" clinical needs. Therein lies the meaning of its popularity, but therein lies also its major weaknesses. The concept "practical" is often a matter of whose needs are served and the character of those needs. We might wish for a practical text of quantum theory or neurosurgery—such works are conceptually invalid when the term "practical" is used except for the already advanced student.

A more subtle weakness must also be noted. The formal and general orientation makes this work read like most textbooks of medicine or surgery and this seduces the student into treating behavioral

phenomena in the way he does the symptoms and signs of endocarditis or fracture. Unfortunately, for this situation, the propositions and laws governing behavior (as an adaptational process) go far beyond those necessary to explain the phenomena of organic medicine. Thus the desire on the part of the authors to be practical and popular with students has led to over-simplification and even misrepresentation of many of the problems and technics which are the essence of modern psychiatry. This is most blatantly evident when we note that 136 pages are devoted to the organic and toxic psychoses, but only 66 pages are allotted to discussion of the psychoneuroses and psychosomatic reactions, despite the fact that the latter entities comprise the vast majority of cases and the ones requiring the most sensitive and skilled perceptions of the physician.

Out of fairness to the book one must grant that some excellent descriptive prose is to be found in various sections, and this is useful in leading to diagnosis of classes of diseases. It helps to make the student aware of elements of abnormal behavior and to appreciate the tremendous incidence of such. If it succeeds in making psychiatry more palatable to a larger number of students even at the risk of misleading them at the conceptual level, it will have served a practical purpose fairly well.—S. L. Sands, M.D.

REHABILITATION NURSING, by Alice B. Morrissey, R.N. (G. P. Putnam's Sons, New York, \$5.00).

The importance of rehabilitation has come to the forefront particularly since the last World War. The duties of the nurse and her responsibility to the patient is amplified in this volume. Illustrations and tables have been chosen with care. Every nurse would do well to refer to this volume because of the excellent presentation of the author's knowledge of this important subject.—E. M. George, M.D.

MEASUREMENT AND EVALUATION IN PHYSICAL, HEALTH AND RECREATION EDUCATION, by Leonard A. Larson, Ph.D., and Rachael D. Yocom, M.A. (C. V. Mosby Co., St. Louis, Mo., \$7.50).

This book has been prepared to present standards of measurement and evaluation in physical, health and recreational education. Laboratory technics, measurements gained by external performance and an overall index of physical fitness are presented with all known tests included. The illustrations, tables and charts are most complete. Anyone interested in this subject and especially anyone who expects to present statistical data will find this volume invaluable.—E. M. George, M.D.

SPATIAL VECTOR ELECTROCARDIOGRAPHY, by Robert P. Grant, M.D., and E. Harvey Estes, Jr., M.D. (The Blakiston Co., Philadelphia, \$4.50).

This second edition volume which was first published privately for students at the Emory University

Medical School, should be valuable to the physician interested in electrocardiography.

Spatial vector electrocardiography, at the present time, is a very controversial subject. However, there is a possibility that it will improve our interpretation of electrocardiograms. The authors believe it will simplify the clinical interpretation of the E.C.G. and that it is more accurate than empiric methods. Thus the pattern methods of interpretation are eliminated, and the differentiation of E.C.G. changes due to the position of the heart and abnormal myocardial changes are easily recognized. It has been often written, Sir Thomas Lewis said, "There was nothing further to learn from the E.C.G.," so he devoted his mind to other studies of cardiology. We know this was erroneous, because Dr. Frank Wilson and his Ann Arbor group "took over where Lewis left off." Furthermore, Einthoven, over 40 years ago, first applied the vector methods to the limb leads, but it was Wilson and his co-workers who contributed our present concept of the ventricular gradient. The spatial vector method is simply an adaptation of ventricular gradient concept. Measuring the ventricular gradient is tedious and time consuming, while the spatial vector method is much more simple and less time consuming. The vector methods tend to give a more accurate method of E.C.G. interpretation for clinical purposes. It is possible the spatial vector-cardiogram will thus give us a more scientific approach to the E.C.G. interpretations.

This book will probably only appeal to a small field of physicians. Doctors interested in electrocardiography and cardiologists should have this volume in their libraries. The text is well illustrated by numerous diagrams and this greatly increases the practical value of the book.—G. H. Finch, M.D.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

MEETING OF THE COMMITTEE ON GENERAL PRACTICE

The Committee on General Practice met in the central office Friday afternoon, December 21, with the following persons present: Doctors Cecil V. Hamilton, Garner; Charles A. Nicoll, Panora; Ivan T. Schultz, Humboldt; Paul F. Chesnut, Winterset, and Willis M. Fowler of the College of Medicine Dean's Committee.

Dr. Fowler said the Board of Education had approved the establishment of a preceptorship for junior medical students before their senior medical year. Each student shall serve one month with a physician doing a general practice. Physicians shall be selected by the dean on the basis of recommendations from the State Society and shall serve for an indefinite term. Dr. Fowler asked those present to review rules and regulations suggested by the University officials, which was done and agreement reached. It was then decided to ask each Councilor to name several physicians from his district he felt would make good preceptors. The University will make the final selection from this list.

The State Society and the Committee on General Practice offered full cooperation to the University in getting the plan started, and Dr. Fowler was asked to submit an article for the February *Journal* which he agreed to do. Meeting adjourned about four p.m.

MEETING OF THE BOARD OF TRUSTEES

The Board of Trustees of the State Society met in the central office Sunday morning, January 13, with the following persons present: Trustees Robert N. Larimer, Sioux City; Lonnie A. Coffin, Farmington and John W. Billingsley, Newton; President, Donald C. Conzett, Dubuque; President-elect, Ben T. Whitaker, Boone; Secretary, Allan B. Phillips, Des Moines; and from the central office, Dr. Ransom D. Bernard, Don Taylor and Mary McCord. Also present for part of the meeting were Mr. I. W. Myers, legal counsel and Mr. R. P. Uetz, general contractor.

Dr. Larimer called the meeting to order at ten a.m. and Mr. Uetz was introduced. He showed new floor plans for the suggested office building; these were felt to be highly satisfactory and he was asked to determine whether a permit for building could be obtained and if so, to bring in a firm bid at the board's next meeting. This was set for February 3. Mr. Myers was asked to examine the abstract for the lot under option and to report on it by February 3.

Dr. Bernard was next asked for his report, which dealt with the Iowa Health Council, the State Department of Health, contacts with the *Des Moines Register*, work with the Committees on Industrial Health, Speakers Bureau and Maternal and Child Health. He also brought up the rules and regulations for the new preceptor system and two changes were suggested by those present. He discussed problems of the television program and asked that the committee on physicians' relations be activated as soon as possible. He said it would be possible to reproduce some of the television programs at the annual meeting and the trustees felt this would be an excellent idea and asked him to do so.

Don Taylor reported he now has two field men in Blue Cross-Blue Shield; that progress is being made in county radio-press meetings, with resultant public relations committees being set up. He was commended for the work he is doing.

The annual meeting was discussed and it was decided to permit the firm which held a cocktail party prior to the banquet in Sioux City to do so again if it wished; to call the House of Delegates into session at four p.m. on Sunday, April 27; to give a booth to the Iowa Freedom League and to ask Polk County if it wished to take over the entertainment for the banquet.

Salaries for 1952 were set and Dr. Raymond F. Frech, Newton, was authorized to attend the Congress on Industrial Health to represent the State Society.

Mr. Myers discussed the income tax problems facing many surgeons in the state and the board decided the State Society should act as a clearing house for physicians whose returns are being questioned and that their attorneys should be advised to write to Mr. Myers if they wished to pool their experience. It was decided a bulletin should be sent to all members at once advising them of this and of the need for preceptors for junior medical students.

A resolution from Woodbury County was read and is to be acknowledged; as is a telegram asking financial support for the Committee for Constitutional Government. Final action was to instruct the Executive Secretary to see about having the present lease extended on account of the new building. Meeting adjourned at four p.m.

SOCIETY PROCEEDINGS

MEETINGS

Anesthesia Study Commission

The December meeting of the Anesthesia Study Commission was held December 13 at the Des Moines Club in Des Moines. An activity of the Iowa Anesthesiological Society, meetings are held every two months in various parts of the state for the purpose of discussing interesting or instructive cases reported by physicians throughout Iowa. Dr. Harvey B. Eastburn, Burlington, is Chairman and Director of the Commission.

Black Hawk

Dr. Clark N. Cooper, Waterloo, was recently elected President of the Black Hawk County Medical Society. Other new officers include: President-elect, Dr. Frank H. Reuling, Waterloo; Vice President, Dr. Ralph T. Paige, LaPorte City; Secretary, Dr. Gardner D. Phelps, Waterloo and Treasurer, Dr. George C. Murphy, Waterloo.

Boone

Members of the Boone County Medical Society entertained at an annual Christmas party December 27 at the Holst Hotel in Boone in honor of the nursing staff, office personnel and technicians at the Boone County Hospital and for all of the doctors' office assistants.

Buena Vista

Dr. Roger J. Mattice, Sioux Rapids, has been elected President of the Buena Vista County Medical Society for 1952. Other new officers are: Vice President, Dr. James A. Cornish and Secretary-treasurer, Dr. Thomas E. Shea, both of Storm Lake.

Calhoun

The Calhoun County Medical Society met December 20 at the Brower Hotel in Rockwell City, at which time the following officers were elected for 1952: President, Dr. Glenn S. Rost, Lake City; Vice President, Dr. Roy G. Klockslem, Rockwell City and Secretary-treasurer, Dr. Paul Ferguson, Lake City.

Carroll

Dr. A. Reas Anneberg, Carroll, has been elected

President of the Carroll County Medical Society for 1952. Other new officers are: President-elect, Dr. Paul D. Anneberg; Vice President, Dr. Paul L. Pascoe and Secretary-treasurer, Dr. James M. Tierney, all of Carroll.

Cass

Dr. Ralph H. Moe, Griswold, was recently elected President of the Cass County Medical Society at its meeting December 10 at the Hotel Whitney in Atlantic. Other new officers chosen include: Vice President, Dr. Harvey A. Johnson and Secretary-treasurer, Dr. John F. Moriarity, both of Atlantic.

Clinton

New officers of the Clinton County Medical Society recently elected include: President, Dr. Edward T. Carey, Jr.; Vice President, Dr. Robert H. Foss and Secretary-treasurer, Dr. Milton E. Barrent, all of Clinton.

Dubuque

Dr. Edwin Thorsness, Dubuque, was elected President of the Dubuque County Medical Society December 11 at the Elks Club in Dubuque. Other officers chosen for 1952 include: First Vice President, Dr. Luke A. Faber, Dubuque; Second Vice President, Dr. Charles C. Griffin, Dyersville; Treasurer, Dr. John C. Kassmeyer, Dubuque and Librarian, Dr. Henry G. Langworthy, Dubuque.

Fayette

The following officers have been elected to serve during 1952 in the Fayette County Medical Society: President, Dr. Lester E. Ketner, Oelwein; Vice President, Dr. Henry H. Wolfe, Elgin and Secretary, Arthur F. Grandinetti, Oelwein.

Jefferson

The Jefferson County Medical Society held its annual meeting December 20 at the Hotel Leggett in Fairfield. Officers elected to serve the Society during 1952 include: President, Dr. Lora D. James; Vice President, Dr. Kenneth G. Cook and Secretary-treasurer, Dr. John W. Castell, all of Fairfield.

Marion

The December meeting of the Marion County Medical Society was held December 11 at the Veterans Hospital in Knoxville. The following officers were chosen for 1952: President, Dr. Dwight A. Mater, Knoxville; Vice President, Dr. Dean S. Burbank, Pleasantville and Secretary-treasurer, Dr. William W. Bourke, Knoxville.

Marshall

Dr. Byron M. Biersborn, State Center, was elected President of the Marshall County Medical Society for the coming year at the regular meeting of the Society December 4 in Marshalltown. Other officers include: Vice President, Dr. Edson Knight and Secretary-treasurer, Dr. Harold Sauer, both of Marshalltown.

Page

Dr. Frederick S. Sperry, Clarinda, was named President of the Page County Medical Society at its annual dinner meeting December 20 at Bradley's in Essex. Other new officers chosen for 1952 include: Vice President, Dr. George H. Powers, Shenandoah and Secretary-treasurer, Dr. Stuart T. Ramsdell, Clarinda.

Pocahontas

The Pocahontas County Medical Society held its annual meeting December 20 in Fonda at which time the following officers were elected for 1952: President, Dr. John B. Thielen, Fonda; Vice President, Dr. William F. Brinkman, Pocahontas and Secretary-treasurer, Dr. Charles L. Jones, Gilmore City.

Polk

The regular meeting of the Polk County Medical Society will be held February 20 at the Hotel Savery in Des Moines. Dr. Michael L. Mason, Associate Professor of Surgery, Northwestern University Medical School, Chicago, will speak.

Pottawattamie

The Pottawattamie County Medical Society held its regular meeting December 18 at the Hotel Chieftain in Council Bluffs. Officers chosen for the year include: President, Dr. Kenneth L. Thompson, Oakland; Vice President, Dr. Lee R. Martin, Council Bluffs and Secretary-treasurer, Dr. Arthur M. Pedersen, Council Bluffs.

Poweshiek

Members of the Poweshiek County Medical Society elected Dr. John R. Parish, Grinnell, as their President for 1952 at an annual meeting held December 18 at the Monroe Hotel in Grinnell. Dr. S. Dale Porter, also of Grinnell, was chosen Secretary.

Shelby

Dr. Lawrence V. Larsen, Harlan, was recently elected President of the Shelby County Medical Society at its annual meeting December 12 at the Harlan Field Club. Dr. Joseph H. Spearing, Harlan, was elected Secretary-treasurer.

Washington

The Washington County Medical Society met in regular session December 13 during which time the election of officers for 1952 was held. New officers are: President, Dr. John M. Lloyd, Washington; Vice President, Dr. Dwight G. Sattler, Kalona and Secretary-treasurer, Dr. William S. Kyle, Washington.

Webster

Dr. Matthew G. Sanders, Fort Dodge, was elected President of the Webster County Medical Society at its annual dinner meeting December 18 at the Hotel Warden in Fort Dodge. Other new officers for 1952 include: Vice President, Dr. Joseph J. Weyer and Secretary-treasurer, Dr. Ernest M. Van Patten, both of Fort Dodge.

Winneshiek

Dr. Ralph M. Dalquist, Decorah, was elected President of the Winneshiek County Medical Society for 1952 at the annual election held December 20 in Decorah. Dr. John G. Goggin, Ossian, was chosen Vice President and Dr. Leo C. Kuhn, Decorah, was re-elected Secretary-treasurer.

Wright

Dr. George B. Hogenson, Eagle Grove, was elected President of the Wright County Medical Society at its annual meeting held in Clarion recently. Dr. John R. Christensen, also of Eagle Grove, was re-elected Secretary of the group.

Woodbury

Dr. Aaron Q. Johnson, Sioux City, was installed as the Woodbury County Medical Society's Presi-

dent for 1952 at the Society's annual meeting December 12 at the Sioux City Club in Sioux City. Other new officers include: President-elect, Dr. Robert C. Mungan; Vice President, Dr. Peirce D. Knott and Secretary-treasurer, Dr. Paul W. Osin- cup, all of Sioux City.

MARRIAGE ANNOUNCEMENT

Miss Marjorie Rae Kroeger, Cedar Rapids, daughter of Mr. and Mrs. Raymond C. Kroeger of Maquoketa and **Dr. Francis E. Flannery**, son of Dr. and Mrs. Edward E. Flannery of Decatur, Ill., were married December 29 in Cedar Rapids.

PERSONALS

Dr. George F. Canady has opened an office in Jefferson for the general practice of medicine. A 1948 graduate of the University of Nebraska College of Medicine, Omaha, Nebr., Dr. Canady spent his internship at the Methodist Hospital, Omaha, after which he was called to active service in the medical Corps of the Navy. He was released last August.

Dr. Dean C. Cooper, a specialist in X-ray diagnosis and treatment, has entered private practice in Fort Dodge with offices in the Carver building. A 1945 graduate of the SUI College of Medicine, Dr. Cooper interned at the United States Marine Hospital in Detroit and served 25 months as a medical officer and roentgenologist at the United States Army General Hospital in the Panama Canal Zone. For the past year and a half, Dr. Cooper has been in private practice in Sioux Falls, S. D.

Dr. Edward H. Files, Cedar Rapids, has been named Linn County Medical Relief Director by the Board of Supervisors.

Dr. Martin Hicklin, Director of the Des Moines County Health Center since July, 1949, has resigned in order to report for active military duty with the United States Public Health Service at Atlanta, Ga.

Dr. Earl D. Lovett, formerly of Vinton, has begun the practice of medicine in San Luis Obispo, Calif.

Dr. Wendell A. Johnson, Emmetsburg, will leave the medical practice of **Dr. Paul O. Nelson** and move to Denver, Colo. this month. **Dr. C. C. Moore**, formerly of Estherville has succeeded Dr. Johnson.

Dr. Viola D. Nelken, formerly of Clinton, has begun a two-year residency at the Columbia Hospital in Columbia, S. C.

Dr. Edward A. Rogers, Jr., Anamosa, has been named the Iowa State Men's Reformatory physician.

Dr. Fred Sternagel, West Des Moines, was recently named as winner of the annual "Citizenship Award" sponsored by the West Des Moines Chamber of Commerce.

Dr. Emil M. Stimac, formerly head of the medical division of the Rock Island Arsenal, Rock Island, Ill., has become associated with **Dr. Cecil M. Zukerman** in Davenport. A 1945 graduate of the University of Minnesota Medical School, Dr. Stimac served his internship at the Highland Park General Hospital, Highland Park, Mich.

DEATH NOTICES

Dr. Isaac L. Gould, 58, Des Moines physician, died of a heart ailment January 3 at the Veterans Administration Hospital in Des Moines. He had been ill a week. Born at North Liberty, Dr. Gould had been a resident of Des Moines five years, previously practicing medicine in Kellogg. He was graduated from the State University of Iowa College of Medicine in 1918. Dr. Gould was a member of the Jasper County and Iowa Medical Societies at the time of his death.

Dr. William H. Johnston, 30, resident in Surgery at Veterans Administration Hospital, Des Moines, died of a heart ailment November 20. Dr. Johnston was graduated from the University of Illinois College of Medicine in 1947 and was a member of the Polk County and Iowa State Medical Societies at the time of his death.

Dr. George Guyford Leith, 67, Wilton Junction physician, died at the University Hospitals in Iowa City on December 21 following a stroke. Born in Wilton Junction, Dr. Leith was graduated from the State University of Iowa College of Medicine

in 1908. At the time of his death he was a member of the Muscatine County and Iowa State Medical Societies.

Dr. William A. Seidler, 73, Jamaica physician for more than 50 years, died December 24 at his home following a long illness. Born at Minburn, Dr. Seidler was graduated from the St. Louis College of Physicians and Surgeons, St. Louis, Mo., in 1902. At the time of his death, Dr. Seidler was a life member of the Dallas-Guthrie County and Iowa State Medical Societies.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of January 15, 1952

| | |
|--|-------------------------|
| Ackerman, J. H., Clarksville (Melbourne, Fla.) | Asst. Surg., U.S.P.H.S. |
| Alberts, M. E., Des Moines (Des Moines) | Lt., U.S.N.R. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) | Major, A.U.S. |
| Bartholomew, R. D., Lake City (Oakland, Calif.) | Lt. (j.g.), U.S.N.R. |
| Bartley, R. L., Sully FPO San Francisco, Calif.) | Lt., U.S.N.R. |
| Benge, D. K., Dows (Ft. Leonard Wood, Mo.) | 1st Lt., U.S.A. |
| Braatelen, N. T., Des Moines (Camp Carson, Colo.) | 1st Lt., U.S.A.F. |
| Brown, R. C., Mason City (Kansas City, Kan.) | 1st Lt., A.U.S. |
| Camp, J. R., Thompson (San Diego, Calif.) | Lt. (j.g.), U.S.N.R. |
| Carroll, T. J., Sibley (APO San Francisco, Calif.) | 1st Lt., U.S.A.F. |
| Carson, R. W., Winterset (APO San Francisco, Calif.) | 1st Lt., A.U.S. |
| Coyne, K. M., Burlington (FPO San Francisco, Calif.) | Cmdr., U.S.N.R. |
| Dalager, R. D., Ottumwa (Annapolis, Md.) | U.S.N.R. |
| Davidson, M. C. (APO New York, N. Y.) | Lt. Col., A.U.S. |
| Davis, S. K., Des Moines (Seattle, Wash.) | |
| Donahue, J. F., Fort Dodge (San Antonio, Texas) | U.S.A.F. |
| Fitch, R. E., Des Moines (Bangor, Me.) | 1st Lt., U.S.A.F. |
| From, Paul, West Des Moines (San Antonio, Texas) | 1st Lt., U.S.A.F. |
| Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) | U.S.A.F. |
| Goenne, W. C., Jr., Davenport (Tacoma, Wash.) | Major, A.U.S. |
| Greco, D. J., Des Moines (APO San Francisco, Calif.) | Lt., A.U.S. |
| Gustafson, J. E., Des Moines (Camp Roberts, Calif.) | 1st Lt., A.U.S. |
| Jensen, K. V., Newton (San Antonio, Texas) | 1st Lt., U.S.A.F. |
| Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) | 1st Lt., U.S.A.F. |
| Johnson, F. N., Madrid (San Antonio, Texas) | 1st Lt., U.S.A.F. |
| Johnson, M. H., Iowa City (Tacoma, Wash.) | Capt., A.U.S. |
| Keil, P. G., Des Moines (Bangor, Me.) | Major, U.S.A.F. |
| King, R. E., Des Moines (APO San Francisco, Calif.) | Capt. A.U.S. |
| Krause, R. E., Ottumwa (Camp Atterbury, Ind.) | 1st Lt., A.U.S. |
| Kruse, R. H., Conrad (Pearl Harbor, T. H.) | Lt., U.S.N.R. |
| Kurth, R. J., Waterloo (Panama City, Fla.) | Capt., U.S.A.F. |
| Landis, S. N., Des Moines (Topeka, Kan.) | Major, U.S.A.F. |
| Leiter, E. R. K., Des Moines (Bangor, Me.) | Capt., U.S.A.F. |
| McCrary, W. A., Lake City (APO San Francisco, Calif.) | Capt., A.U.S. |
| Mangan, J. T., Forest City (San Diego, Calif.) | Lt. (j.g.), U.S.N.R. |
| Merkel, B. M., Des Moines (Bangor, Me.) | Col., U.S.A.F. |
| Mitchell, R. C., Iowa City (Yorktown, Va.) | Lt., U.S.N.R. |
| Montgomery, A. E., Jefferson (APO San Francisco, Calif.) | Lt. Col., A.U.S. |
| Mulder, L., Sioux Center (Sioux Falls, S. D.) | Capt., U.S.A.F. |
| Neagle, P. E., Dubuque | |
| Nicholson, R. W., Paton | |
| Nordin, C. A., Des Moines (Lackland Field, Texas) | 1st Lt., U.S.A.F. |
| Odell, J. E., Iowa City (Seattle, Wash.) | Lt., U.S.N. |
| Piburn, M. F., Preston | 1st Lt., A.U.S. |
| Ruble, R. L., Nevada (Camp Chaffee, Ark.) | A.U.S. |
| Schultz, M. H., Waterloo (Weaver, S.D.) | Capt., U.S.A.F. |
| Shaffer, F. J., Iowa City | Col., U.S.A.F. |
| Simonsen, M. N., Sioux City (Oakland, Calif.) | Lt. Cmdr., U.S.N.R. |
| Smith, C. B., Iowa City (Fort Jackson, S. C.) | Capt., A.U.S. |
| Stutsman, R. E., Washington (San Diego, Calif.) | Cmdr., U.S.N. |
| Tempel, P. F., Steamboat Rock (APO San Francisco, Calif.) | Capt., A.U.S. |
| Thistlewaite, E. A., Des Moines (Riverside, Calif.) | 1st Lt., U.S.A.F. |
| Thomas, J. H., Sibley (Austin, Texas) | U.S.A.F. |
| Tice, W. K., Iowa City (Kansas City, Kan.) | 1st Lt., A.U.S. |
| Tyler, D. E., Shenandoah (Great Lakes, Ill.) | U.S.N.R. |
| Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) | Capt., U.S.A.F. |
| von Lackum, L. S., Oelwein (FPO San Francisco, Calif.) | Lt., U.S.N.R. |
| Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) | Lt., U.S.N.R. |
| Walz, D. V., Le Mars (Weaver, S. D.) | 1st Lt., U.S.A.F. |
| Wehrmacher, W. H., Iowa City (Oceanside, Calif.) | U.S.N.R. |
| Wheeler, R. A., Des Moines (Camp Crowder, Mo.) | 1st Lt., A.U.S. |
| Wiedemeier, J. L., Sioux City (Ft. Sam Houston, Texas) | Lt., A.U.S. |
| *Wilkins, D. S., Iowa City (APO San Francisco, Calif.) | Capt., A.U.S. |
| Woolfolk, J. H., II, Waterloo (Weaver, S. D.) | U.S.A.F. |
| Zeilenga, R. H., Orange City (Kansas City, Kan.) | 1st Lt., U.S.A.F. |

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, MARCH, 1952

No. 3

IOWA STATE MEDICAL SOCIETY

Organized in 1850

One Hundred First Meeting

Des Moines, Iowa, April 27-30, 1952

HOTEL FORT DES MOINES



Program of General Sessions

Monday Morning, April 28

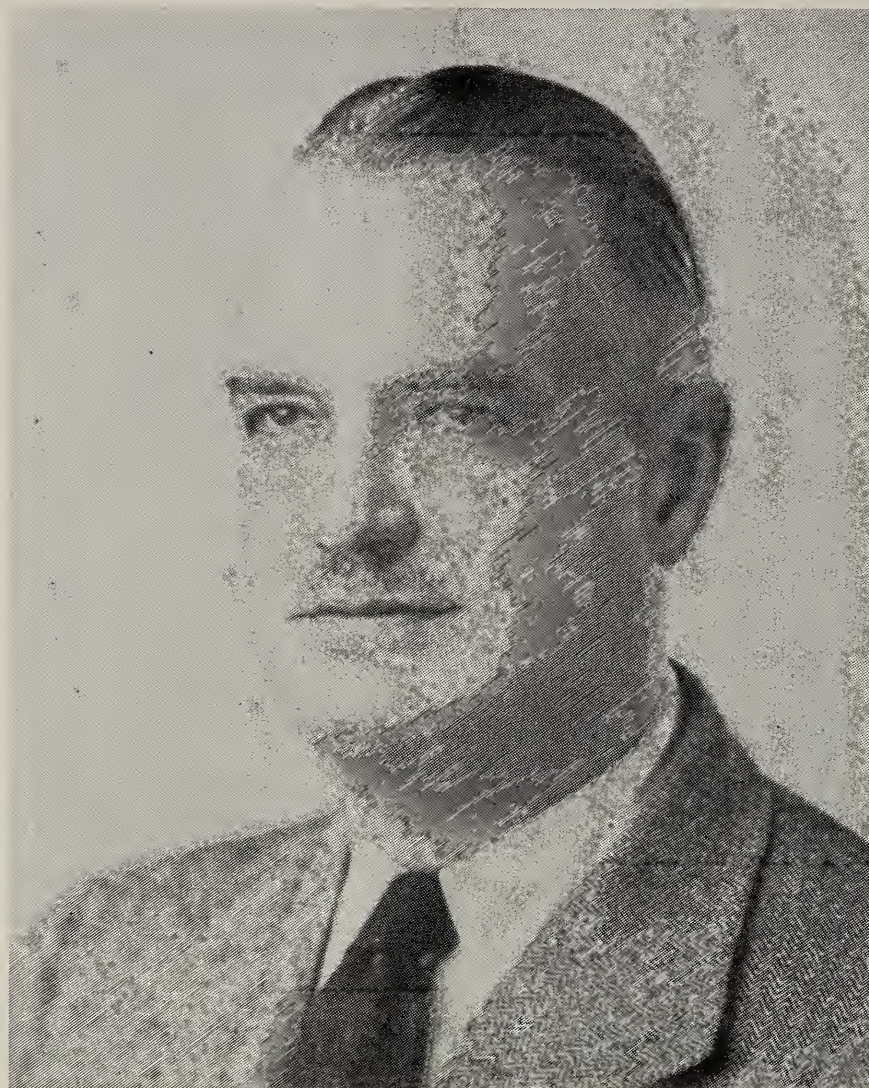
Grand Ball Room

- 8:45 Greetings—
TOM B. THROCKMORTON, M.D., President, Polk County Medical Society
- Response—
MARTIN I. OLSEN, M.D., First Vice-President, Iowa State Medical Society
- 9:00 The Practical Office Treatment of Meniere's Disease
HENRY L. WILLIAMS, M.D., Rochester, Associate Professor of Otolaryngology and Rhinology, Mayo Foundation
- 9:30 Cutaneous Manifestations of Viruses
RUSSELL J. BLATTNER, M.D., Houston, Professor of Pediatrics, Baylor University College of Medicine
- 10:00 What Can Be Done About Hypertension?
EDGAR V. ALLEN, M.D., Rochester, Professor of Medicine, Mayo Foundation for Medical Education and Research
- 10:30 Recess to visit exhibits
- 11:00 Residency Training as an Educational Activity
ROBERT A. MOORE, M.D., St. Louis, Dean and Professor of Pathology, Washington University School of Medicine
- 11:30 Carcinoma Prevention Applied to the Large Intestine
RAYMOND J. JACKMAN, M.D., Rochester, Assistant Professor of Proctology, University of Minnesota Graduate School of Medicine

Tuesday Morning, April 29

Grand Ball Room

- 9:00 Should I Call an Orthopedic Surgeon?
FOSTER MATCHETT, M.D., Denver, Clinical Assistant Professor of Orthopedics, University of Colorado School of Medicine
- 9:30 Jaundice
PHILIP THOREK, M.D., Chicago, Clinical Associate Professor of Surgery, University of Illinois College of Medicine
- 10:00 President's Address
DONALD C. CONZETT, M.D., Dubuque, President, Iowa State Medical Society
- 10:20 President-elect's Address
BEN T. WHITAKER, M.D., Boone, President-elect, Iowa State Medical Society
- 10:30 Recess to visit exhibits
- 11:00 Address
EDWARD J. MCCORMICK, M.D., Toledo, Trustee, American Medical Association
- 11:30 The Psychiatric Aspects of Geriatrics
WILLIAM MALAMUD, M.D., Boston, Professor of Psychiatry, Boston University School of Medicine



DONALD C. CONZETT, M.D.
President
Iowa State Medical Society
1951-1952

Program of General Sessions

Wednesday Morning, April 30

Grand Ball Room

- 9:30 Prenatal Care—Accomplishments and Failures
JOHN W. HARRIS, M.D., Madison, Professor of
Obstetrics & Gynecology, University of Wis-
consin Medical School

- 10:00 Recess to visit exhibits
10:30 Some Surgical Problems of the Newborn and
Infant
GROVER C. PENBERTHY, M.D., Detroit, Professor
of Clinical Surgery, Wayne University Col-
lege of Medicine
11:00 Report of House of Delegates
Installation of New President

Program of Section Meetings

MEDICAL SECTION

J. STUART McQUISTON, M.D., Cedar Rapids
Chairman

Monday Afternoon, April 28

Grand Ball Room

- 2:00 The Why, When and How of Treatment with
Anticoagulants
EDGAR V. ALLEN, M.D., Rochester
- 2:30 Rational Fluid Therapy in Daily Practice
CHARLES M. RYAN, M.D., Sioux City
- 3:00 Recess to visit exhibits
- 3:30 Office Neurology
ADOLPH L. SAHS, M.D., Iowa City
- 4:00 Current Use and Abuse of Antibiotics
WALLACE E. HERRELL, M.D., Rochester
- 4:30 Diagnosis and Management of Thyroid Disease
T. LYLE CARR, M.D., Iowa City, and co-workers
in Thyroid Clinic

Tuesday Afternoon, April 29

Midtown Roller Rink—11th & Walnut

- 2:00 Diagnosis and Treatment of Brucellosis
WESLEY W. SPINK, M.D., Minneapolis, Professor
of Medicine, University of Minnesota Medi-
cal School
- 2:30 Disease of the Alimentary Canal as Conditioning
Factor in Vitamin Deficiency Disorders
WILLIAM B. BEAN, M.D., Iowa City
- 3:00 Recess to visit exhibits
- 3:30 Panel Discussion on ACTH and Cortisone (Ques-
tions should be submitted prior to start of
panel)
LAWRENCE J. HALPIN, M.D., Cedar Rapids,
Chairman
HERMAN J. SMITH, M.D., Des Moines
GEORGE E. MONTGOMERY, M.D., Ames
ROBERT G. CARNEY, M.D., Iowa City
- 4:30 Iatrogenic Heart Disease
HARRY B. WEINBERG, M.D., Davenport

SURGICAL SECTION

DONOVAN F. WARD, M.D., Dubuque
Chairman

Monday Afternoon, April 28

Midtown Roller Rink—11th & Walnut

- 2:00 Rectovaginal Fistulae—The Surgical Treatment
of Certain Types
RAYMOND J. JACKMAN, M.D., Rochester
- 2:30 Diagnosis and Management of Various Precan-
cerous Lesions
FRANK R. PETERSON, M.D., Cedar Rapids
- 3:00 Recess to visit exhibits
- 3:30 Management of Gastro-intestinal Hemorrhage
THOMAS F. THORNTON, JR., M.D., Waterloo
- 4:00 Present Concepts of Silent Gallstones
PHILIP L. BETTLER, M.D., Sioux City
- 4:30 Painful Shoulder Syndrome
FRANK G. OBER, M.D., Burlington

Tuesday Afternoon, April 29

Grand Ball Room

- 2:00 Prevention and Correction of Common Duct In-
juries
PHILIP THOREK, M.D., Chicago
- 2:30 Abdominal Malformations of the Newborn Re-
quiring Immediate Surgery
ROBERT T. TIDRICK, M.D., Iowa City
- 3:00 Recess to visit exhibits
- 3:30 Early and Late Complications of Head Injuries
WALTER D. ABBOTT, M.D., Des Moines
- 4:00 Use of Metallic Elements in Repair of Hernia
Defects
J. DONALD HENNESSY, M.D., Council Bluffs
- 4:30 Aceptic Necrosis of Epiphyses
GEOFFREY W. BENNETT, M.D., Oskaloosa



EDGAR V. ALLEN, M.D.
Rochester



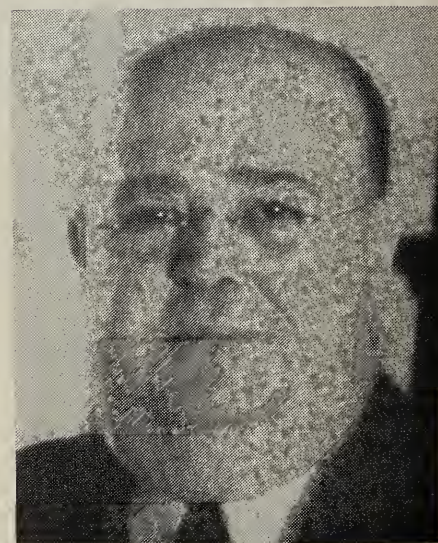
ROBERT A. MOORE, M.D.
St. Louis



FOSTER MATCHETT, M.D.
Denver



WESLEY W. SPINK, M.D.
Minneapolis



JOHN W. HARRIS, M.D.
Madison

Program of Section Meetings

EYE, EAR, NOSE AND THROAT SECTION

RALPH C. CARPENTER, M.D., Marshalltown
Chairman

Monday Afternoon, April 28

Midtown Roller Rink—11th & Walnut

- 2:00 The Basis for the Use of Cortisone and ACTH
in Otolaryngologic Conditions
HENRY L. WILLIAMS, M.D., Rochester
- 2:30 Maxillary Sinusitis
GORDON F. HARKNESS, M.D., Davenport
- 3:00 Recess to visit exhibits
- 3:30 Diagnosis and Treatment of External Otitis
HUBERT L. CLINE, M.D., Iowa City
- 4:00 Histamine and Staphylococcus Toxoid in Oph-
thalmology and Otolaryngology
LELAND H. PREWITT, M.D., Ottumwa
- 4:30 The Problem of the Chronic Ear
THOMAS R. UPDEGRAFF, M.D., Waterloo

Tuesday Afternoon, April 29

- 2:00 Address
JEROME A. HILGER, M.D., St. Paul, Clinical As-
sistant Professor of Surgery, University of
Minnesota Medical School
- 2:30 Secondary Hemorrhage Post Adeno-tonsillectomy
JACK V. TREYNOR, M.D., Council Bluffs
- 3:00 Recess to visit exhibits
- 3:30 Central Serous Choroidosis
GLENN L. WALKER, M.D., Iowa City
- 4:00 Glaucoma and Cataract
OTIS D. WOLFE, M.D., Marshalltown
- 4:30 Therapeutic Trends in EENT
CECIL C. JONES, M.D., Des Moines

IOWA NEUROPSYCHIATRIC SOCIETY

Tuesday Afternoon, April 29

Colonial Room—Des Moines Club

- 2:00 Problems of Hospital Practice in Psychiatry
WILLIAM MALAMUD, M.D., Boston

OBSTETRIC SECTION

JOHN H. RANDALL, M.D., Iowa City
Chairman

Tuesday Afternoon, April 29

Des Moines Room—Hotel Savery

- 2:00 Management of the Persistent Occiput Posterior
Position
PHILIP I. CREW, M.D., Cedar Rapids
- 2:25 Some Common Obstetric Problems and Their
Management
DRAPER L. LONG, M.D., Mason City
- 2:50 Diabetes in Pregnancy
ADDISON W. BROWN, M.D., Des Moines
- 3:15 Selection of Patients for the Various Types of
Pelvic Plastic Procedures
JOHN W. HARRIS, M.D., Madison
- 3:45 Education for Child Birth in Private Practice
H. LLOYD MILLER, M.D., Cedar Rapids
- 4:10 Vaginal Hysterectomy for the Treatment of
Prolapse
WILBUR C. THATCHER, M.D., Fort Dodge
- 4:35 The Mid Forceps Operation
ETHEL S. DANA, M.D., Ottumwa

PEDIATRIC SECTION

GEORGE J. KLOK, M.D., Council Bluffs
Chairman

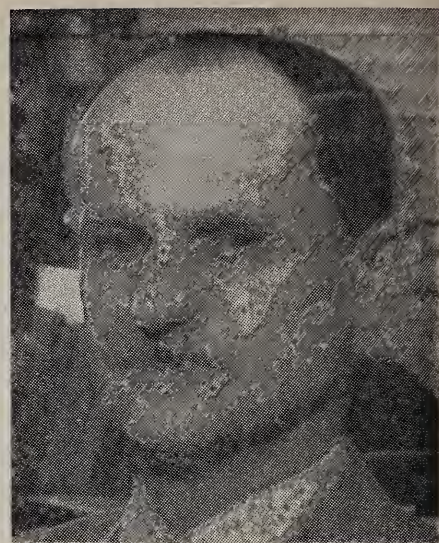
Monday Afternoon, April 28

Blank Memorial Hospital—Des Moines

- 2:00 Epidemiology of Virus Encephalitis
RUSSELL J. BLATTNER, M.D., Houston
- 2:40 Gastric Ulcers in Childhood
WALTER M. BLOCK, M.D., Cedar Rapids
- 3:00 Intermission
- 3:10 Treatment of Psychogenic Constipation in Young
Children
HUNTER H. COMLY, M.D., Iowa City
- 3:40 A Case of Adrenal Cortical Hyperplasia
JOE M. STANDEFER, M.D., Des Moines
- 4:10 Intestinal Obstructions in the Newborn
JACK SPEVAK, M.D., Des Moines



RAYMOND J. JACKMAN, M.D.
Rochester



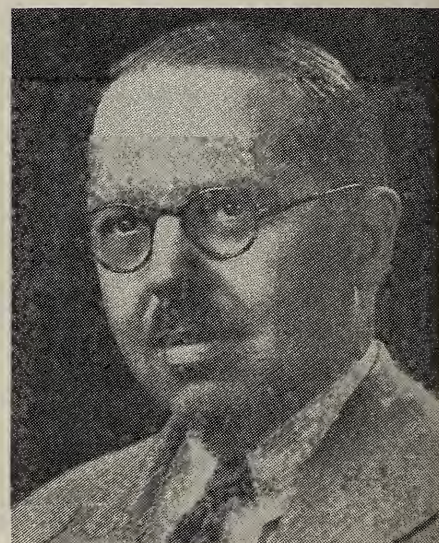
WILLIAM MALAMUD, M.D.
Boston



PHILIP THOREK, M.D.
Chicago



EDWARD J. McCORMICK, M.D.
Toledo



HENRY L. WILLIAMS, M.D.
Rochester

Special Luncheons and Dinners

Monday, April 28

IOWA ACADEMY OF GENERAL PRACTICE

Luncheon and Business Meeting—12:15 p. m.

Palm Room—Hotel Fort Des Moines

Reservations: W. M. Sproul, M.D., Equitable Bldg., Des Moines 9

IOWA ASSOCIATION OF PATHOLOGISTS

Luncheon—12:15 p. m.

Flamingo Room—Hotel Fort Des Moines

Speaker: ROBERT A. MOORE, M.D., St. Louis

Reservations: Wallace M. Rindskoff, M.D., Broadlawns Hospital, Des Moines 13

PAST PRESIDENTS' LUNCHEON

Luncheon—12:15 p. m.

Parlor A—Hotel Fort Des Moines

IOWA SOCIETY OF ANESTHESIOLOGISTS

Social Hour and Dinner—5:30 p. m.

Arizona Room—Hotel Fort Des Moines

Reservations: E. P. Lovejoy, M.D., Equitable Bldg., Des Moines 9

IOWA X-RAY CLUB

Social Hour and Dinner—5:30 p. m.

Colonial Room—Des Moines Club

Reservations: A. B. Phillips, M.D., Bankers Trust Bldg., Des Moines 9

AMERICAN MEDICAL WOMEN'S ASSOCIATION

Dinner—6:30 p. m.

Younkers' Tea Room

Reservations: Dr. Mary Lyons, 2102 Beaver, Des Moines 10

Tuesday, April 29

IOWA NEUROPSYCHIATRIC SOCIETY

Luncheon—12:15 p. m.

Colonial Room—Des Moines Club

Reservations: H. C. Merillat, M.D., 28th & Woodland, Des Moines 12

EYE, EAR, NOSE AND THROAT SECTION

Luncheon—12:15 p. m.

Ranch Room—Hotel Fort Des Moines

Reservations: R. C. Carpenter, M.D., Marshalltown

IOWA OBSTETRIC & GYNECOLOGIC SOCIETY

Luncheon—12:15 p. m.

Des Moines Room—Hotel Savery

IOWA ORTHOPEDIC SOCIETY

Luncheon—12:15 p. m.

Colonial Room—Des Moines Club

Reservations: D. N. Gibson, M. D., Equitable Bldg., Des Moines 9

ANNUAL BANQUET

Grand Ball Room—Hotel Fort Des Moines

Social Hour—6:00 p. m.

Courtesy of the Physicians and Hospitals Supply Co., Minneapolis

Dinner—7:00 p. m.

House of Delegates

Open to all members

First Meeting—Sunday Afternoon, April 27

4:00 p. m.

Grand Ball Room—Hotel Fort Des Moines

Roll Call

Approval of minutes of Wednesday morning session, 1951

Reports of Officers

Reports of Committee Chairmen

Memorials and Communications

New Business

Election of Committee on Nominations

Second Meeting—Wednesday Morning, April 30

7:30 a. m.

Grand Ball Room—Hotel Fort Des Moines

Roll Call

Reading of minutes

Report of Committee on Nominations

Election of Officers

Reports of Committees

Unfinished Business

New Business

Announcement of Committees

Adjournment

GOLF TOURNAMENT

Sunday, April 27

Wakonda Club—Des Moines

11:00 a. m.

The usual golf tournament of the Iowa Medical Golfers' Association will be held at the Wakonda Club in Des Moines on Sunday, April 27. Play will start at eleven a. m.

Reservations should be made with Dr. Harold J. McCoy, Bankers Trust Building, Des Moines 9, far enough in advance so that the necessary arrangements may be made to accommodate everyone. All doctors are invited to participate.

WOMAN'S AUXILIARY

For program of the Woman's Auxiliary meeting, see page 122 of this *Journal*

PSYCHOSOMATIC ASPECTS OF DEPRESSION*

WILLIAM F. ROTH, JR.,** M.D.
KANSAS CITY, KAN.

INTRODUCTION

DEPRESSION is one of the most common types of reaction of the human organism to disturbances in its internal or external environment. It is obvious that we all, as long as life stirs in us, will react in some way to disturbances of our internal equilibrium (homeostasis) and also to disruptions in our relationships with the world about us. The *type* of reaction to such change displayed by an individual will depend on various factors, foremost of which are the personality and previous life experience of the person involved. Since people vary greatly in respect to these factors, their reactions to homeostatic disturbances will vary accordingly. Under conditions of stress, probably some 20 to 30 per cent of human beings will respond with a depressive reaction, but even among these the depression will appear "in pure culture" in only a fraction. In most cases the depressive reaction will be mixed with other types of reaction (e.g., anxiety, projection, conversion). For this reason, many illnesses that are fundamentally and essentially depressions are masked or disguised by the accompanying symptomatology, and so masquerade before the practitioner of medicine as anything from dimming of vision to perineal itching. Yet their prompt and proper diagnosis and treatment is a matter of serious import—for many a doctor has had the experience of having a patient come to him with some relatively innocuous physical complaint (e.g., headache, loss of appetite, vague stomach ailment) and then next hearing of him by way of public report, some fine morning, that his patient has been found hanging down in the basement or out in the barn.

DEFINITION OF TERMS

It might seem unnecessary to define the term "depression." Most authors appear to take it for granted that the meaning of the word will be generally understood. It is used quite freely, and apparently interchangeably, in medical and lay writing, although in psychiatric usage it has a rather special meaning. Webster¹ gives two definitions, either of which might apply: "3. State of feeling depressed; dejection, as of mind," and "10. *Med.* (a) Lowering of vitality or functional activity; state of being below the normal in physical and mental vitality or force." Authors of psychiatric texts are not uniformly precise in defining depression. Noyes² gives the following: "Depression is an affective dejection probably arising from various psychopathological sources. . . . It is

really a symptomatic state and not inherently fundamental." On the other hand, Henderson and Gillespie³ simply equate "affective depression" with "sadness."

There is some danger of confusion arising from the fact that the word "depression" is used both in a generic and a specific sense, and that a pathological state is usually implied when this term is used in the specific sense (i.e., "his mood is one of depression" vs. "he has a depression."). Thus, Maslow and Mittelman,⁴ in their textbook of abnormal psychology, give the definition, "A prolonged mood of extreme sadness accompanied by decrease in initiative, difficulty in thinking, and self-debasing ideas." It may be that avoidance of this issue is the reason for the omission of the word from the glossaries of two of our outstanding psychiatric texts, while "anxiety," "elation" and "euphoria" are included.

In the opinion of the author, Noyes is correct in stating that depression is "not inherently fundamental" but is only a symptom of a fundamental state of affairs which governs the external manifestations of mood or the affective tone of the organism. It is suggested that mood can best be conceived of as a state of feeling which accompanies and is dependent on that phase of the biological response to the tension arising from a life situation, which is dependent on the *amount of energy* the organism is able to mobilize in meeting the situation. If this definition is accepted, it follows that depression is that state of mood or affect which accompanies a deficiency in the organism's capacity to mobilize energy for dealing with the tensions arising from life situations. This concept appears to be useful in that it includes the entire range of depressive reactions, normal (physiological) and pathological, and because it allows for both absolute and relative deficiencies in energy output. Throughout the remainder of this paper, however, unless otherwise specified the term "depression" will be used in the restricted sense of a pathological depression.

The definition of the term "psychosomatic" might give rise to a volume of exposition on the psychosomatic concept. Suffice it to say, for purposes of this discussion, that this term refers to the interrelationship of the mental and emotional functions of the organism, on the one hand, with the more tangible and obviously bodily processes, on the other; and by "psychosomatic aspects of depression" we mean the manifestations of physical illness that give rise to, or arise from depression. In simplest terms, our object is to discuss the questions, "How does depression affect people, and in what instances do we see it as an essential factor in illness?"

THE DYNAMICS OF DEPRESSION

As has been stated, depression (in the general sense) is regarded as one type of reaction of the organism to the tensions arising from distur-

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

** University of Kansas School of Medicine, Kansas City, Kan.

bances of homeostatic equilibrium, either internal or external.* Pathological depression is essentially an inadequacy reaction; i.e., it reflects the individual's inability to deal adequately with the new situation and the consequent unresolved tensions. Whether the individual's inability to cope with the situation arises from some inherent deficiency of energy or because of psychologically conditioned inhibitions, the end result is the same—"tension." According to the psychodynamic concept of depression, under certain circumstances a person who is inadequate and blocked in his efforts to meet a situation will turn against himself all of the aggressive impulses which have been mobilized. A simplified expression of this process is found in the statement of the little boy who said, "Nobody loves me. I'm going out in the garden and eat worms." Clinically, one finds expressed in psychotic depressions the acme of self-depreciation and of self-destructive impulses.

Generally speaking, there is little or no specificity of causative factors for the production of

depressive reactions. The personality and past experience of the patient are much more important in determining the type of reaction than is the nature of the noxious situation confronting him. In other words, given two persons faced with the same emotional crisis or suffering the same organic pathology, one may develop a paranoid condition while the other goes into a depression. However, if there is any validity in the energy deficit concept of depression, it would follow that fatigue, certain toxic and metabolic states and idiopathic energy deficit would be more likely to be attended by a depressive reaction than by any other type. Our clinical experience indicates that this is in fact the case.

The place of depression in the field of psychopathology is illustrated schematically in Figure 1. Here, on the left hand side, are listed the principal psychological and physical causes of tension-producing homeostatic disturbances. The dotted arrows indicate the "feed-back" process, whereby psychic factors create tensions that activate physical factors, and vice versa, thus creating vicious circles which go on to produce ever-increasing tensions unless some therapeutic process or spontaneous remission intervenes. On the right hand

* The concept of "external homeostasis," by extension of the physiological concept of homeostasis (intracellular), is used to denote the equilibrium which the individual maintains with other people and with his total external environment.

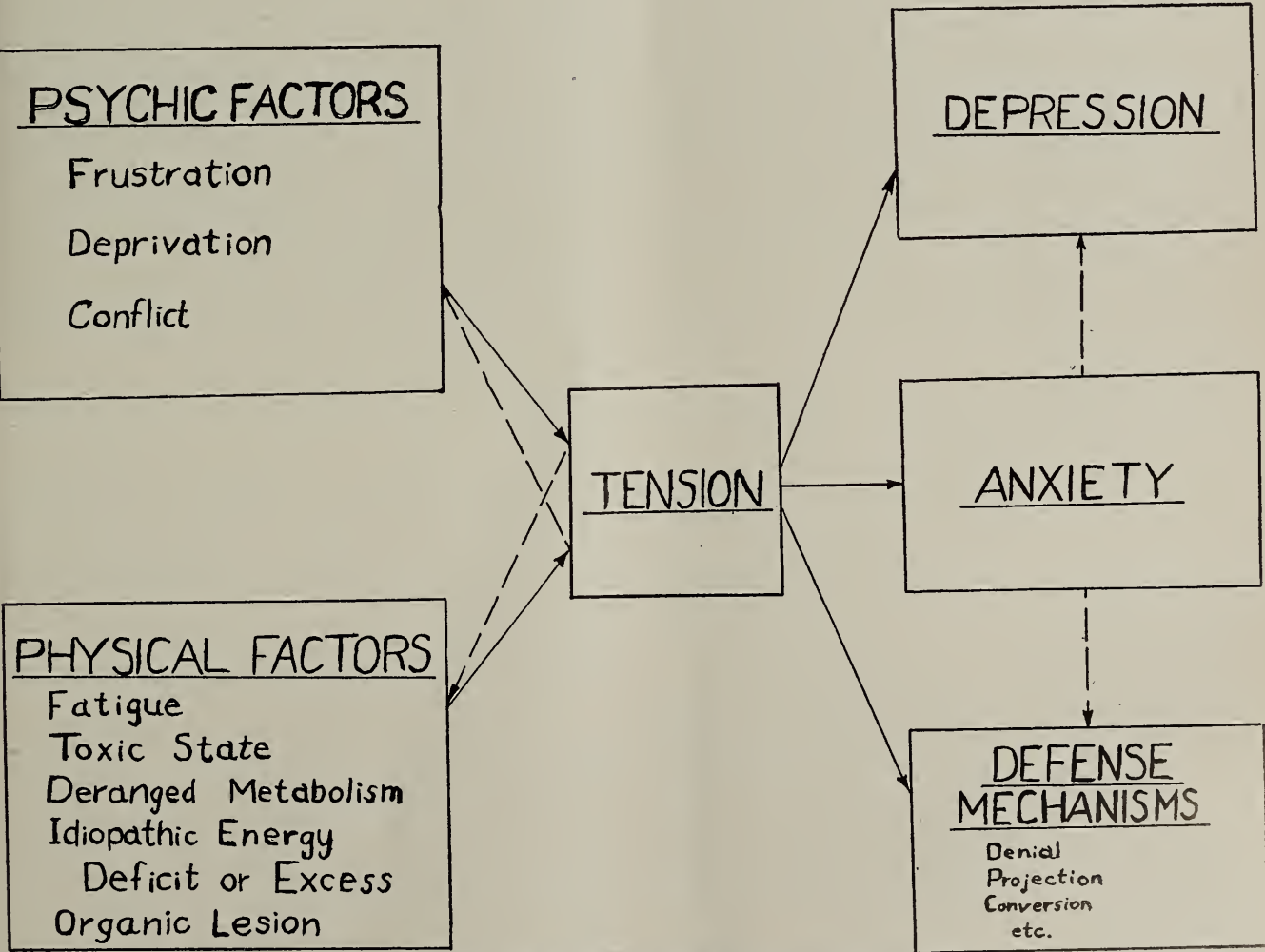


Figure 1. Schematic representation of sources of tension (disturbed equilibrium) and types of inadequate or pathological (illness) reaction to unresolved tension, showing the place of depression in the field of psychopathology.

side of the diagram are represented the possible sequelae of unresolved tensions, which may appear clinically as psychoneuroses or in the form of psychoses. Although the diagram suggests that the various types of reaction appear "in pure culture," it should be emphasized that in clinical experience such is the exception rather than the rule. Actually, most patients will show mixtures of the reaction types, in accordance with their pre-morbid personality make-ups; e.g., a combination of anxiety with depression, or with hysteria (conversion), a mixture of paranoid features (projection) with depression or vice versa, etc. Also, it might be added that in certain cases one sees a succession or alternation of reaction patterns; and in this connection the alternation of depressive and manic (a form of denial) reactions is especially worthy of note.

TYPES OF DEPRESSION

The effects of depression constitute a familiar clinical picture. The typical depressed patient comes to the physician with a lowered estimation of himself, a jaundiced outlook on the present and a pessimistic view of the future. He is apt to look back on the past with misgivings, to criticize and regret the decisions he has made and to exaggerate all his shortcomings, real or imagined. Along with this he shows a diminished capacity for bearing the burdens of life. Linked with his lack of confidence in himself are hesitancy in making decisions and difficulty in initiating action. Molehills become mountains for him, and the smallest of everyday irritations may become almost unbearable. Ordinary sensations from within his soma, previously unnoticed or passed over lightly, now are aches and pains or vague "awful" feelings, and are perhaps his main topic of complaint, if he still has left the energy to voice his complaints to the physician. He is indeed a sad specimen of humanity.

While the clinical picture of outspoken depression is much the same, regardless of the cause, and although there is doubtless an admixture of causative factors in a great many depressions, it is customary and practical to divide depressions into two main groups, (a) the reactive depressions and (b) the endogenous depressions. This traditional division represents an attempt at classification according to etiology.

Reactive Depression. A certain percentage of depressions occur following psychic trauma, with the onset of illness usually coming shortly on the heels of some real calamity—a tremendous *frustration* (e.g., blocking of life ambition), a severe *deprivation* (e.g., loss of a loved one, or of beloved possessions), or some situation precipitating great emotional *conflict* (guilt and fear situations being the most common). To depressions of this sort, which at first appear as "natural" or "normal" mood responses to the hard knocks of life, the term "reactive depression" is applied. This term

has been defined by Masserman⁵ as follows: "A self-limited depressive state the content, intensity and duration of which have rational reference to 'actual' rather than 'symbolic' frustrations, deprivations or adversities in the life of the patient." However, these reactions cannot be considered as simply and wholly extensions of normal depression of mood, because (a) they last too long, and (b) they sometimes occur without any real loss, but following the mere *anticipation* of calamity.

The reactive depressions are of particular interest to psychiatrists because in them one can perhaps see best demonstrated the psychodynamics of depression—the depression arising as a result of hostile or aggressive impulses, which cannot find adequate expression. These depressions also command the interest and attention of all the rest of the medical profession, especially of the physician in general practice, the internist and the surgeon, because they occur as reactions to: (a) the death threat inherent in serious illness (heart disease, cancer, etc.), or (b) the accomplished or anticipated loss of some body part, or (c) the frustration posed by disability or invalidism. All of these situations constitute severe insults to the ego and may be attended by depression. If the physician will bear this fact in mind he will be in a better position to forestall the development of a depression or at least to recognize it promptly and deal with it effectually once it has developed.

Endogenous Depression. The endogenous or autonomous depressions are, by definition, those which arise from within the individuals affected. Instead of following as logical, "normal" reactions to obvious, relatively severe adverse external circumstances, they arise with little or no provocation from the outside world. As Noyes states, "They arise from unrecognized affective factors within, the sources of which are beyond the patient's capacity for understanding."

Endogenous depressions may be subdivided into two groups:

(a) Those in which a fundamental manic-depressive tendency exists. According to Kraepelinian psychiatry, this tendency is constitutional and hereditary. In any event, we regard these depressions as arising on the basis of a fundamental, essentially idiopathic energy deficit. They are usually self-limited in duration, often reach psychotic proportions. It frequently appears that they are precipitated by external events, but in such a case the depressive utterances and reasoning of the patient usually are not centered about the precipitating event. Most psychiatrists include cases of involutional hypochondriasis and involutional melancholia as a subgroup in the general category of the manic-depressive disorders, but reserve the "involutional" label for those patients that have never previously suffered any clear-cut mental illness.

(b) Those that are secondary to somatic pathol-

ogy or to toxic or metabolic states, of which the patients themselves are unaware.* Since any disorder that deranges metabolism or disrupts the highest integrative processes of the nervous system may be attended by depression, the decisive etiological factor in depressions of this type is often found to be a lesion of the central nervous system (e.g., "silent" tumor or vascular lesion, early or low-grade inflammatory process, or chronic residuals). Other common causes are disease of endocrine glands (especially of pancreas and thyroid), peptic ulcer, gastro-intestinal malignancy, and chronic (usually sub-clinical) intoxication and deficiency states.

Reflection on the above leads to the obvious conclusion that, regardless of the dominant feature or type of the depression, a combination of etiological factors will usually be present. It is the physician's task, as he evaluates a depressed patient, to determine which of these factors are significant and which are insignificant, and it is his responsibility to give due consideration to all the possibilities, both psychic and somatic.

DEPRESSION AS A SOURCE OF "NEUROTIC" SYMPTOMS

The practicing physician is quite familiar with and readily recognizes the psychotically depressed patient, the one who is depressed and retarded, perhaps to the point of stupor, or the patient who is so depressed and agitated that he sings over and over the same refrain of self-depreciation and nihilistic forebodings, or the patient who is so obsessed with anxiety tensions focused on his person that he sinks into the rut of hypochondriasis; but these are not the patients that are the special concern of this paper. For every one in this group the practitioner will encounter from five to 15 others who do *not* appear at first to be depressed to the point of mental illness, who complain, for the most part, of some physical symptom, who may impress the physician as "neurotic," but are actually suffering from mild depressions. These are the patients the general practitioner can learn to recognize. The physician needs to acquire the knack of "smelling out" the element of depression in such cases, not only for the sake of saving himself from being led along a false trail, with much waste of his time and effort and the patient's health and money, but also because the patient's life may actually be at stake, since any patient with a depression is potentially suicidal.

In writing on this subject, Watts⁶ gives an interesting account of his experience (as a general practitioner) with patients with mild endogenous depressions. He states that prior to his psychiatric experience in the army he "diagnosed only one

case of endogenous depression, and that after the patient had committed suicide" yet after the war he found this condition to be "comparatively common in general practice." He reports a series of 20 cases he picked up in a period of six months. Ripley⁷ reports a series of 150 patients with depressive reactions, which constituted 28 per cent of all the patients seen in psychiatric consultation in a general hospital. Most of these patients (116) were diagnosed as having reactive depressions, which is not surprising, since a preponderate majority (126) of the total had some physical illness.

The psychiatric literature on mild or transitory depressions is rather meager, doubtless because of the fact that up until the last few years most psychiatrists were working with seriously ill patients, mainly in mental hospitals. However, Paskind⁸ in 1929 reviewed the literature on the subject and described transient or "miniature" attacks of "primary depression" in 88 of a series of 634 patients diagnosed as having manic-depressive depressions. He pointed out that in these cases the mental symptoms were frequently accompanied by such somatic symptoms as feelings of weakness, ready fatigue, epigastric or subensiform distress, eructations and flatulence, and occasionally vomiting and palpitation.

Some 20 years later, Campbell⁹ again called attention to this same class of patients, which he too considers as cases of mild manic-depressive disorder. He enumerates a long list of complaints characteristic of his patients, which he regards as arising on the basis of autonomic disturbances. The complaints most frequently elicited were, in order of frequency:

- Hot flushes, and/or burning of skin.
- Tachycardia, dyspnea, weakness.
- Occipitocervical pains, sensations.
- Coldness, numbness of hands and feet.
- Frontal headache, vertex pressure.
- Dizziness, queer feelings in head.
- Epigastric distress or pylorospasm.
- Marked fatigue or psychomotor retardation.
- Tightness or pain in chest.
- Gaseous distention or indigestion.
- Loss of appetite.

Lower down in the list were constipation, joint pain ("arthritis"), impotency or impaired libido and vomiting.

Campbell's emphasis on the incidence of autonomic disturbances in cases of mild endogenous depression is of particular interest. In the past psychiatrists generally have tended to associate autonomic imbalance more with the schizoid and psychoneurotic reactions and have not emphasized the correlation with depressive reactions, except for the involutional depressions. In the opinion of the author, there is a strong element of masked depression in a great many illnesses that appear clinically to be psychoneuroses and are diagnosed most often as "anxiety neurosis" or "neurasthe-

* It is not meant to imply that a patient in this category may not continue to be depressed after the discovery of the pathology. When this development takes place an element of reactive depression may compound the original depression; on the other hand, the individual may be able to utilize the new knowledge to mobilize his resources, with the result that the depression is dispelled.

nia"; and this depression is the decisive factor in precipitating recurrent attacks of these "psycho-neuroses." One is inclined to agree with Campbell's statement that, "Although mild manic-depressive psychosis has not been so regarded, it is one of the most psychosomatic of all diseases."

ILLUSTRATIVE CASES

Three cases in which depression is considered to have been the essential element will be presented to show the wide range of somatic symptoms that may overshadow and disguise the depression when a strong component of anxiety is present, and to illustrate the difficulty sometimes encountered in classifying a case in a single diagnostic category. These cases also indicate the futility of treatment directed toward the somatic symptoms when the depression does not arise from physical pathology.

Case I. A 50 year old white divorced male, former grocery store manager, was admitted to the psychiatry ward with the chief complaint of pain in eyeballs and fear of blindness (duration 3 weeks). Numerous other complaints referred to eyes, teeth, neck muscles, perineum and nerves (duration 1 year). Present illness dated from re-injury of "crotch muscles" one year previously. Had been to many doctors, finally refused to go to one. Acute increase of symptoms, with unreasonable fears and crying spells, one month after need for space necessitated moving from brother's home, taking room alone. Past history: Was fourth of six children. Grade school education. At 16 left home and went with traveling show as musician and got married. Pneumonia at 18. Divorced at 20. Syphilis at 23 (treated). At 30 had "nerve trouble" and eye symptoms (one month), left show and returned home. Then worked in grocery store, up to manager's position. At 37 "pulled hernia rings" lifting at work; was bedfast seven weeks, then off work two months more. Lost job when business closed, three months before onset of present symptoms. Since then had only occasional "extra" jobs; at one of these injured "crotch muscles" lifting, precipitating present illness. Pre-morbid personality described as extrovert, optimistic, perfectionistic. Maximum weight 155-160; gradual decline since age 24.

Examination on admission: Temperature 101.3, pulse 144, respirations 24, height 65 inches, weight 135; acute pharyngitis with leucocytosis and increased sedimentation rate; bromide rash; marked dental caries; left varicocele; moderate agitation and push of speech, with incessant somatic complaints; some anxiety and depression, but mood not quite appropriate to content; delusional trend regarding soma (e.g., going blind) and going to state hospital; sensorium and intellect essentially unimpaired; insight impaired.

Treatment and course: Despite the history of previous illnesses which were suggestive of affective disorder but which could also have been

manifestations of severe neurosis or of periods of decompensation of a paranoid-obsessive character, the rather inappropriate mood and delusional trend with hypochondriacal and paranoid coloring led to the diagnostic impression of a schizoid disorder. Subcoma insulin therapy was started and after two weeks was increased to light coma level when the patient had had about 20 comas without any essential change in his condition, the insulin dosage was reduced to sub-coma level. He was more cheerful but still complained insistently of various somatic symptoms. After 10 weeks on insulin the patient still showed only moderate improvement so it was decided to give a course of electroconvulsive therapy, on the chance that the depressive factor might be more important than had been appreciated. During the next six weeks a course of 16 electroshock treatments was given, insulin being discontinued after the first ECT. Under this treatment the patient showed marked improvement in mood and general attitude. He began to take an active part in the occupational and recreational activities of the ward, dropped his somatic complaints and began to gain weight. During the remaining five weeks of his hospital stay, after ECT had been discontinued, his behavior was quite normal except for a slight degree of restlessness. During this period of consolidation of gains the last of his carious teeth were extracted and plans were made for return to work after leaving the hospital. Following discharge he carried through with his plan and when last heard from over a year later he was working and getting along well.

Comment: The outstanding lesson of this case lies in the fact that the patient's depression was obscured by his multiple somatic complaints and paranoid attitude, with the result that the correct diagnosis was missed. The erroneous clinical impression was supported by the results of a complete battery of psychological tests, which gave no clear indication of depression but emphasized the chronicity of the mental illness, the patient's inability to deal with reality adequately and the paranoid and intellectualizing trends. Certain fundamental personality traits (the passive-dependent personality and the probably stronger-than-average feminine identification) gave rise to misleading features in the clinical picture. The moderate degree of bromism (74.7 mgm. per cent on admission) may have accentuated the paranoid features. Had we given more consideration to the statement that the patient had formerly been regarded as an extrovert and had once weighed 160 pounds (cf. height 65 inches), we might have envisioned him as originally a cyclothymic, pyknic type of individual. The relative ineffectiveness of the treatment until electrotherapy was started, and then the prompt and almost dramatic response, are taken as evidence that depression was the essential or decisive element in his illness.

Also of interest in this case is the clear-cut re-

lationship, throughout the patient's life, of illness (previously regarded—by the patient at least—as largely somatic) to adversities. It appears that he reacted especially to rejection and deprivation by those he was attached to or upon whom he depended. At age 30 he developed "eye trouble" when he feared he was losing his girl friend to a rival. At 37 he was incapacitated for a long time by lifting at the store where he was unhappy with his domineering boss. At age 50, in the "involutional" period, the final denouement (obvious, severe mental illness) came after the loss of his job (through no fault of his own) and after he was turned out of his relatives' home (a rejection and deprivation) to make room for a child they were adopting. The final diagnosis applied to this case, since the previous decompensations were not proved, obvious mental illnesses, was "Involutional Psychosis, Mixed Type."

Case II. A 58 year old farm housewife was admitted to the psychiatry ward with the chief complaints of nervousness, insomnia and multiple aches and pains (duration one year). Present illness apparently came on gradually, without any known precipitating incident, and was characterized by a succession of symptoms, increasing in severity, up to the time of psychiatric hospitalization, as follows: vague abdominal pain, nausea, anorexia, occasional vomiting; sensation of fullness in occiput; insomnia; severe, disabling cramping pains, mostly at night while in bed, trying to get to sleep; constant fatigue; crying spells; weight loss of 30 pounds (down to 98) in past four months, despite fairly normal food intake. Symptoms were not relieved by medical treatment over a period of months during which she received "shots" for the leg pains, sedatives and a period of hospitalization for a "complete check-up" which revealed no physical disease. *Past history:* was sixth of nine children. Liked school; finished eighth grade at age 15. Did domestic work in neighboring farm homes till marriage at 18. Home life congenial. Bore two healthy children (at age 20 and 24). Physical health generally good, but had operation for uterine fibroids at 23, hysterectomy at 40. Since then had often complained of somatic symptoms and had had repeated episodes or "spells" of excessive alertness and insomnia, which would "wear themselves out" in a month or two. Pre-morbid personality: described as energetic, tense and restless, sociable, a leader and organizer, optimistic and cheerful, but always "worrisome."

Examination on admission: Signs of weight loss, otherwise no significant laboratory or physical findings; mental status characterized by essentially normal general behavior, stream of talk and content, but a mildly tense, anxious and depressive attitude, with a constant tendency to complain about insomnia and various physical symptoms. Psychological tests reflected a disturbance interfering with adequate functioning of memory, judg-

ment and concentration; and a preoccupation with sadness and sickness.

Treatment and course: The patient was given symptomatic medication during a 10 day period of observation. Despite bedtime sedation she slept very poorly, with some nights only three to four hours of broken sleep. She showed a good response to a series of seven electroshock treatments; gained five pounds, was sleeping through the night without sedatives; was dismissed after four weeks in the hospital, still complaining some, with obvious misgivings about returning to her home, but greatly improved in respect to mood. In view of certain indications that factors in the home situation (causing her to feel left alone, neglected) had contributed to her illness, the patient and her husband were advised concerning ways and means of improving this. After her return home she continued to improve, gained weight up to 135 pounds, was her old self again, "completely well" for a period of more than two years.

Comment: Although there was no doubt in our minds concerning this patient's cyclothymic personality make-up and the endogenous element in her depression, her mental illness had not attained a degree of severity to justify the application of the term "psychosis." Hence, the final diagnosis in this case was "Psychoneurosis, Mixed Type, with Anxiety, Depression and Fatigue."

Case III. A 54 year old white married male, meat cutter by trade, was admitted to the Psychiatry Clinic of the Out-Patient Department after having been seen in various clinics with chief complaints as follows: pain and ache in all muscles with some tingling and numbness (Medicine); pain in maxillary region, over frontal area and spreading to vertex and occiput (Ear-Nose-Throat); dull headache and chronic fatigue (Allergy); headache "all over head" (Eye). Present illness: Onset four years previously (at age 50), shortly after he found his mother dead in bed, of a heart attack. Then had recurrent episodes of tightness and pain in muscles, with brief periods of remission. Gradually progressive difficulty and inability to work during next three years (one day collapsed at work, had to be carried home). Unable to work at all during last year. Suffered some emotional instability, with periods of depression and fleeting thoughts of suicide; insomnia; anorexia, but only small weight loss; constipation. Past history: First suffered anxiety at age 11, when run over by wheel of farm wagon (mother reacted with extreme anxiety). Grade school education. Started to learn trade at 14, but had many colds and developed stiffness of neck and back and headaches. Went into grocery work at 19, and traveled widely (salesman) without relief of symptoms. Married at 25; two children born seven and nine years later. After marriage began to have nasal "stiffness" which was finally relieved by operation at 32. Nasal symptoms recurred ten years later, dur-

ing a period when he traveled away from home.

Examination at the various clinics revealed the following findings: Temperature, pulse, respiration normal. Blood pressure 105/85. Height 70 inches. Weight 176. Mouth edentulous, with adequate dentures. Poor transillumination of right maxillary sinus. Right turbinates somewhat thickened. Right inguinal hernia. Varicocele. Varicose veins of both legs. Physical and laboratory examinations otherwise normal. Mental status: mild anxious depression with clinical syndrome of "Psychoneurosis, Mixed Type."

Treatment and course: The patient was seen in therapeutic interviews over a two year period, with regular weekly visits during the first nine months and then at gradually increasing intervals. At the beginning he was quite insistent in his somatic complaints, demanding medication, which was given as a supportive measure. After a month his chief complaint changed to pruritis ani, but this receded after consultant's findings were negative. Later was preoccupied with varicocele, spoke of loss of libido. As time went on patient talked less about his symptoms and more about his problems at home, irritation with his wife and worry over his daughter (age 21), whose dating and increasing independence distressed him greatly. Marked increase of symptoms about time daughter left to live away from home. Electroshock therapy started after 14 months psychotherapy but discontinued after four treatments when patient worried and complained excessively over sprained muscle. Interview therapy continued and after six months more patient began to show definite, tangible signs of improvement; daughter married and he accepted this; began working a little, first one or two days per week, then half-time. Finally, after 25 months' treatment, telephoned to say he had started working full-time, so could not come to clinic. In the ensuing three years has communicated occasionally but has not returned.

Comment: This case demonstrates the great range and richness of somatic symptomatology in a case that presented a psychoneurotic syndrome but was actually essentially a depression. Reviewing the etiological factors, one sees a vulnerable personality decompensating in the involutional period to near-psychotic state following a severe loss or deprivation, the death of the mother. The case presents a rather typical example of the course of "hypochondriasis" under psychotherapy, a gradual return to strength and weaning from support after about two years of treatment. The treatment in this case was essentially the same as that described by Lyon,¹⁰ and is one that may be used with equally good results by any physician who is willing to adapt himself to any changes in his way of dealing with patients that may be necessitated by strict adherence to the procedure outlined by Lyon.

MANAGEMENT OF DEPRESSION BY THE PRACTITIONER

The physician who would do a better job of caring for his patients who have depressions, either obvious or obscure, will do well (a) to cultivate his diagnostic acumen in recognizing depression; (b) to keep always in mind the fact that there may be one or more of a variety of causes, both psychological and physical, which need to be considered as one searches for etiological factors in a given case; and (c) to learn to follow certain fundamental principles of treatment. A physician does not have to be a psychiatrist in order to treat mild depressions successfully. As a matter of fact, most of these will continue to be treated by general practitioners or by physicians in medical specialties other than psychiatry. Our hope is that the quality of this treatment will be constantly improved.

There are several things that any physician can and should do to establish or rule out the diagnosis of depression. These are:

(1) Think of the possibility of depression when studying a patient whose illness appears to be a psychoneurosis or hypochondriasis, especially if it is of recent onset, or if the patient gives the appearance of being an "inadequate personality," in which case an evaluation of his past life achievement is necessary so that one may decide if the inadequacy is life-long or if it results from an episode of depressive decompensation.

(2) Get into the habit of (a) questioning all patients about mood (e.g., "How do you feel?" "How are your spirits—high, low, or average?" "How do you enjoy your usual recreations and pleasures?" "How do you face each day on getting up in the morning?" "How do you look forward to the future?"), and (b) observing patients for objective signs of depression in facies, attitude, movements, etc. (this being a point, incidentally, where the family doctor has the advantage over a consultant, because he is in a position to compare a patient with his previous normal self).

(3) Be especially on the alert and suspect the presence of depression if the history includes two or more of the following:

Weight loss without demonstrated diminution of intake.

Insomnia, especially the waking type.

Vague gastro-intestinal complaint.

Change in energy output.

Giving up of normal activities, especially because of loss of interest or pleasure.

Persistent or unreasonable worry regarding health—or anything else.

(4) Learn how to talk with the patient so as to be able—confidently, yet without traumatizing him—to make an adequate inquiry into the suicidal potentialities in the case.

If these rules are followed and no significant depressive factor is elicited, the possibility of the illness being a masked depression is pretty well

eliminated. If there is still doubt as to the presence or absence of depression, the physician might wish to have the backing of a psychiatric consultation, although this step may safely be postponed if there is no suggestion of suicidal thoughts or unconscious self-destructive trends. On the other hand, if suicidal tendencies are noted, the situation calls for immediate initiation of appropriate precautions against suicide, and referral for psychiatric consultation should not be delayed, unless the physician has had considerable experience in evaluating suicidal risks and is willing to take full responsibility for the outcome.

While a detailed exposition of methods of treating depressed patients is beyond the scope of this paper, the following outline of basic rules is suggested as a guide for the practitioner:

(1) Evaluate the suicidal risk and refer the patient to a psychiatrist if necessary, but while you have the case under your treatment:

(2) Make a complete and careful physical survey, taking particular care to *avoid* focusing attention on insignificant or obscure positive findings.

(3) Promote solid rapport. Let the patient do the talking. Assure him that his feelings and symptoms are understood, but scrupulously avoid any attempts at dissuading him from his symptoms, at "jollyng" or cheering him up, at "back-slapping" or exhortation.

(4) Improve sleep with sedation.

(5) Remove his excess "load" of responsibilities, but promote therapeutic occupation as tolerated.

(6) Keep before the patient the prospect of ultimate recovery. Practice patience in all your dealings with him.

If the physician will observe these fundamental treatment principles he will find his efforts well rewarded.

SUMMARY

(1) Depression, one of the commonest types of reaction to unresolved disturbances of homeostatic equilibrium ("tension"), is considered to be a concomitant of deficiency in the individual's capacity to mobilize energy to meet such life situations.

(2) The psychological and physical causes of "tension" are reviewed and their relationship to pathological depression is discussed. It is pointed out that there are practically no specific causative factors for depression, that there is usually a combination of causes, and that the depressive reaction, like any psychopathological reaction, is largely personality-determined, hence often appears with an admixture of other psychopathology.

(3) The frequent occurrence of masked or disguised depression as a source of "neurotic" symptoms and "psychosomatic" illness is emphasized. Three case histories are given to illustrate this point and to show the futility of symptomatic treatment and the necessity of diagnosing and treating the depression.

(4) Suggestions are given to aid the practitioner (a) in the diagnosis of mild and obscure depressions and (b) in the treatment of the depressed patient.

BIBLIOGRAPHY

1. Webster's New International Dictionary of the English Language. Merriam, Springfield, Mass., 2nd ed., unabridged, 1944.
2. Noyes, A. P.: Modern Clinical Psychiatry, W. B. Saunders, Philadelphia, 3rd ed., 1948.
3. Henderson, D. K.; and Gillespie, R. D.: A Textbook of Psychiatry. Oxford University Press, London, 7th ed., 1949.
4. Maslow, A. H.; and Mittelmann, B.: Principles of Abnormal Psychology. Harper, New York, 1941.
5. Masserman, J. H.: Principles of Dynamic Psychiatry. W. B. Saunders, Philadelphia, 1946.
6. Watts, C. A. H.: Endogenous depression in general practice. *Brit. Med. J.*, 1:11-14 (Jan. 4) 1947.
7. Ripley, H. S.: Depressive reactions in a general hospital. *J. Nerv. and Ment. Dis.*, 105:607-615 (June) 1947.
8. Paskind, H. A.: Brief attacks of manic-depressive depression. *Arch. Neurol. & Psychiat.*, 22:123-134 (July) 1929.
9. Campbell, J. D.: Mild manic-depressive psychosis, depressive type: psychiatric and clinical significance. *J. Nerv. & Ment. Dis.*, 112:206-236 (September) 1950.
10. Lyon, J. M.: On the treatment of hypochondriasis. *American Practitioner*, 3:545-549 (May) 1949.

PSYCHIATRIC ASPECTS OF GASTROINTESTINAL DISORDERS*

EDWARD G. BILLINGS, M.D.

DENVER, COLO.

THE GASTROINTESTINAL TRACT, the principal site of a complex system of functions, can be likened to an instrument panel indicating the relative position in life of the individual personality possessing it. It, like any indicator, can become primarily defective or diseased itself and give forth warnings seemingly identical with those which under ordinary circumstances might indicate a "change in course" of the person's life, some disharmony in his general organismal activity or that he has been subjected to additional or inordinate stresses and strains. It is natural for those who must interpret the changes in gastrointestinal tract functioning to feel a tremendous need for information by which a quick and accurate appraisal may be made as to whether the presenting symptoms and signs are those of a primarily diseased or organically disordered tract, or merely the reverberations of more personal difficulties of its possessor, or, a combination of both. The object of this discussion is to attempt to make succinct why and how the gastrointestinal tract may functionally respond while in the service of the total personality, by what means one may interpret disorders of it, and thus be prepared to institute definitive therapy.

The governing mechanisms of the gastrointestinal tract are relatively complex. All parts of the system are autonomous as to their ability to perform the muscular and secretory activities pertinent to the maintenance of life. The only exception to this is in the instances of the upper two-fifths of the esophagus and the anal canal where

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

voluntary control has developed sufficiently to partially regulate the fundamentally involuntary functions for use in emergencies only. Although the motor and secretory functions of the various parts of the tract, with the mentioned exceptions, are autonomous, they are actually immediately integrated and controlled in their respective activities by the autonomic nervous system, endocrine functions and gastrointestinal hormones—which in turn, of course, can be influenced by local vascular and reflex phenomena. These more or less segmental controls are not only influenced by, but actually are the principal mediators of the over-all automatic regulating functions of the person, namely, the emotional or affective functions. As the result of the familiar work of Cannon,¹ R. Schindler,² E. Weiss,³ and recently that of H. G. Wolff, et al^{4, 5}, to mention but a few investigators, it is generally accepted that such specific emotional reactions as fear, anger, etc., are accompanied by observable motor, secretory and vascular reactions of the alimentary tract. Emotion, however, as the over-all and regulating phenomenon has to do with the maintenance of internal physiological harmony, acting through its chief mediators, the autonomic nervous and endocrine systems. Emotion, then, has to do with keeping the "personality" in a potential or actual state of internal readiness or preparedness to act in keeping with occurrences in both the external environment and the internal milieu. It seems reasonable then to assume that those somatic functions that are especially important to the maintenance of life and are so intimately related to the basic and primary instinctual drives are bound to participate in any pertinent emotional reaction whether such be an emergency response to some external stimulus or a mere change in the internal tension of the personality. Such is actually the case. Clinical and anatomico-pathological studies have shown in the case of the alimentary tract, as in other organs:

1. That in some organic tissue diseases, exacerbations in the destructive processes and associated attacks of distress may be brought about by the functional lability of the autonomic nervous system and emotional life of the patient.

2. That in so-called "functional" alterations of the motility, secretion and physico-chemical status of the alimentary tract, just as much distress and disability may be produced as by primary structural defects and

3. That continued and profound emotionally, autonomically, and hormonally produced functional variations may actually lead to irreversible morphological and physico-chemical modifications.

Symptoms and signs of a change in function, per se, or of an illness, whether it be primarily somatic or psychiatric in nature, are but manifestations of the patient attempting to attain or maintain healthy efficiency by overcoming or com-

pensating for some disorder in his functioning as caused by an invading organism, some structural or functional variation or by a life situation. A personality disorder, like a physical one, is likewise but the manifestation of an individual attempting, without knowing why or how, to make an adequate adjustment, to be efficient as a functioning organism and to live satisfactorily as long as possible. Therefore, in any instance of symptoms having reference to the gastrointestinal tract, or any other system of functions, the alleviation of those symptoms is dependent on their meaning. They may mean that the individual's body chemistry or specific tissues are primarily at fault, or that invading organisms or exogenous toxins and physical forces are the etiologic factors. If he is not in this sense primarily sick in a physical way, then he may be sick in an "all over way" as a personality because:

1. He is fundamentally unable to surmount the business of meeting life as he finds it, due to:

- (a) intellectual inadequacies—in this case the reaction is termed one of *intellectual inadequacy* and/or
- (b) a poor balance and integration of potentially competent functions as in *immaturity* or *constitutional psychopathic disorders*.

2. Trauma or disease has destroyed or changed central nervous system structures, the chief function of which is that of integrating all functions. Diagnostically, the resultant reaction is termed an *organic* one.

3. Toxic or infectious factors have changed the functional support of the central nervous system. The reactions occurring on this basis are termed "*support*" or *delirious ones*.

4. Throughout a lifetime there have been developed variations in the symbolizing functions, especially as they relate to the thinking activities, that give rise to queer, odd and often incongruous total actions and reactions, diagnostically described as *schizophrenic*, *paranoid* and *paranoic* conditions.

5. Of constitutionally determined variations in, or other disorders of, the personality-regulating functions, especially those of mood or affect. Such disorders are called the *affective reactions*, i.e., depressions or elations.

6. Owing to the particular make-up, training, experiences, etc., of the individual, he has difficulty in using adequately and in disposing of previous experiences and memories, anticipations, conflicts and such nonmental inadequacies and peculiarities as fatigability, sensitivity to special topics and circumstances, biological rhythms in sleep, weight gain or loss, sex urges; and, therefore, is poorly equipped to meet the complexities of life. In these instances such a person reacts sooner with variations in functions and the concomitant symptoms to lighter burdens and less weighty factors than does the average person. The resulting reactions are considered as being

minor disorders of personality or the psychoneuroses.

In my experience, the majority of adult patients that I have been called upon to see presented symptoms and signs referable to gastrointestinal malfunction. Most of these symptoms and signs actually proved to be bodily repercussions of difficulties in the emotional, volitional and intellectual activities of the patients when subjected to insecurity, discontent, conflict, apprehension, anxiety, depression, etc.

In the general practice of medicine the patients with gastrointestinal difficulties which are *not organogenic in nature*, will fall largely into two categories. Approximately one-third are either in the throes of, or are developing, a major personality disorder such as a depression, or schizophrenic reaction or organic type of psychosis. The remaining two-thirds are either reacting to the stress of life because of intellectual inadequacy and immaturity or are psychoneurotic. If examination reveals that the patient falls into the first group he ideally requires immediate specialized care and treatment.

Inasmuch as the psychoneurotic group constitutes about one-half of all the patients with so-called "functional" gastrointestinal disorders seen in general practice, wherein most of them will be treated, the remainder of the time allotted will be spent in discussing my experience and suggestions with regard to the handling of this type of patient.

An adult psychoneurotic patient, with a so-called "functional gastrointestinal disorder," will, in terms of sex, be three times as frequently a woman as a man. The complaints are usually multiple, diffuse and inconstant, with specific reference to gastrointestinal malfunctioning described secondary to, or intermingled with, other symptoms such as fatigability, insomnia, various other somatic sensations, etc. In the group of patients I have studied, the most frequently complained of gastrointestinal symptoms, in order of frequency, were: constipation—variously described, "gas" with general or local abdominal discomfort, nausea, vomiting, abdominal unrest, "dyspepsia," epigastric pain, gaseous eructations, loose and mucoid stools and recto-anal pain, usually defined as "pressure." In case of pain, the description was usually variable as to the type of sensation and its location.

When the present illness was elicited, usually some of the following features stood out. The first gastrointestinal difficulties began some time in the third decade of life. In this group of patients the first symptoms were noticed usually in the late twenties or after about three to four years of obligation to assume and maintain the responsibilities of life, such as marriage, the bearing and supporting of children, a more critical view of the future and the handling of personal conflicts resulting from discrepancies between am-

bitions and actual capacity.⁶ The physiological repercussions became disturbing to the patients usually following some occurrence or combination of circumstances acting as a precipitating factor. In order of frequency, the precipitating factors were:

1. A sudden increase in strain and tension such as could be produced by promotion or irregularity in work.
2. A specific emotion such as apprehension, fear, bereavement or anger.
3. Medical statements that incriminated some innocent organ or a diversity in medical opinion, usually the result of incomplete examination and failure to consider the patient as a person.
4. Marital problems leading to conflict.
5. Birth of additional children.

A further historical investigation of the patient's illness often indicated that other complaints existed in the intervals between annoying gastrointestinal symptoms. The appetite was often described as being diffusely disordered. When described as specifically disturbed, there were many inconsistencies. Most of our patients were greatly concerned over bowel evacuation and gave in detail numerous variations in elimination.

The personal and developmental histories indicated that three-fourths of the men and nearly two-thirds of the women were temperamentally and biologically equipped so as to be unduly sensitive and susceptible to ordinary strains of living. The historical evaluation of the childhood and adolescence, temperament, emotional life and general school and work performance of the remaining patients indicate that they began life with average equipment for meeting life issues, but through ignorance, mismanagement of personal assets and handicaps, misfortune, or the subjection, by necessity, to inordinate emotional stress and strain, were thereby rendered capable of reacting in a so-called psychoneurotic way.

To secure such data through personal history taking, it is necessary to look for patterns of behavior. For example, a temperamental and emotional instability is often indicated in childhood by such so-called "neuropathic traits" as excessive timidity, enuresis, nail biting, tantrums, vasomotor instabilities, emotionally produced digestive upsets, allergic-like reactions, stuttering, tics, fears, too marked submissiveness, etc. In adolescence, temperamental instability may appear as over-conscientiousness, undue emotionality, too rigid and impractical ethical and moral codes, too marked body consciousness, a tendency to fear trouble in the future, excessive feelings of inadequacy and more than the usual digestive upsets due to emotional tension. In later life such trends, frequently concealed during first meetings, are indicated by excessive shyness and timidity, indecisiveness, suggestibility, inclination to dwell on past experiences and to be apprehensive of the future, need to be dependent on

someone and too rigid attitudes and uncomfortable sentiments tenaciously adhered to.

Beside these traits characteristic of the psychoneurotic personality, which renders him liable to react sooner than the average person to the lighter issues of life, the personal history frequently indicates that he is of a biological and physical makeup not conducive to standing strain comfortably. He usually needs more than the average amount of sleep, is often underweight, asthenic and visceroptotic and his autonomic and endocrine systems are easily disturbed—as indicated by lability of pulse rate, dermatographia, menstrual dysfunction, circulatory instability, carbohydrate and water imbalance and digestive upsets.

The personal histories of our patients revealed that as a result of the psycho-physiological disturbances undergone by them due to their special reactive capacities, they were frequently rendered still less capable of functioning comfortably. This occurred as a rule when they were made insecure in their bodies by a multitude of misdiagnoses, a variety of ineffectual therapies and surgical operations.

One group of 69 patients of this type, which I reported ten years ago,⁷ underwent a total of 166 major surgical procedures of which 79 were abdominal operations done specifically to alleviate their symptoms, but actually were instrumental in increasing them. Most of the patients of this series, except those with recto-anal disturbances, were fundamentally conscientious and sensitive people. All were characteristically tense and inclined to anxiety attacks.⁸ Those with gastric hypermotility—pylorospasm—frequently associated with discomfort on eating, the eructators and the vomiters showed more anxiety than the others. Those with looseness of stool manifested the least amount of anxiety of any of the patients.

The patients who had dysphagia, anal difficulty and trouble in evacuating the lower alimentary tract, were characteristically rigid in their makeup and in need of being close to and dependent on someone. These people showed aversion to themselves for actually having those needs, the nonfulfillment of which they at the same time resented.

The patients having esophageal spasm with heart burn and those with spastic constipation, were inclined to depressive reactions. The greater the tendency to be unable to take in food or the greater the tendency to eject it by eructations, vomiting or diarrhea, the more aversion and disgust were at play.

These data seemed to indicate that the more the gastrointestinal intaking and eliminative functions are involved, the more deeply is the personality implicated in emotional conflicts and the handling of his volitional processes and trends. Gastrointestinal disorders, in truth, may be vis-

ceral expressions of the inner life of the patient.

Physical, neurological, and laboratory examination findings in these same cases revealed no outstanding features. The most frequently noted clinical findings with specific relation to gastrointestinal functions were: varying abdominal tenderness in the region referred to by the patient (in 59 per cent); spasm of a part of the large bowel shown by roentgen examination (in 47 per cent), with visceroptosis being noted in 20.5 per cent; a palpable, ropy and usually tender colon (in 39 per cent); definite roentgen evidence of pylorospasm (in 38 per cent), with retention of barium sulfate in over one-third (37 per cent); general loss of weight from a few to 22 pounds (10 Kg.); marked fluctuations in the basal metabolic rates to the positive and the negative sides; roentgen evidence of gastric hypermotility and hypomotility (in 22 per cent) and roentgen evidence of a sluggishly functioning gallbladder (in 20 per cent). Gastric bleeding was demonstrated in 20 per cent of the cases, and sigmoidoscopic studies revealed in 20 per cent varying mucosal pictures (due to vascular constriction and dilatation), excessive secretion of mucus, muscular spasm, and, in two cases, non-infectious ulcers of the mucous membrane. In no cases were there demonstrable infecting organisms of etiologic significance.

Therefore, in the diagnosis of any of the personality-determined disorders producing abdominal symptoms, it is most important to obtain a complete statement in the patient's own words of the circumstances under which the complaint began, without asking what caused the trouble—the patient probably doesn't know—and a personal history of his reactions to life and his behavior that will give insight into the nature of his reactive capacity. A complete physical and neurologic examination with indicated laboratory tests should always be done. Likewise his mood, sentiments and attitudes, his beliefs, his thinking and his memory should by direct examination be as surely tested as his ability to down and pass through his alimentary tract a barium sulfate-laden meal. It is seldom possible in the psychiatrically ill patient to understand gastrointestinal functions and malfunctions by taking only what is known of the organs or their functions or of the digestion as a whole. In other words, to evaluate vomiting due to gastric trauma or as a reflex phenomenon from an infected gallbladder requires one approach. To explain the vomiting of disgust is another matter, for it is not a digestive phenomenon. Instead, it is an emotional overflow and is a personality disorder in that it has meaning as to the state of the personal functioning of the patient.

If this is true, then it is apparent that the essence of successful treatment of gastrointestinal disorders as described lies in the accomplishment of the following aims:

1. The re-establishment of the patient's security in his body.
2. The re-establishment of the patient's security and confidence in himself as a person.
3. The establishment in the patient of an ability to accept his limitations, to know his assets and to manage his business of living more efficiently and comfortable.

Through an orderly taken history of the patient's past performance and his specific reaction to given situations, he will begin to sense the true nature of his illness and gain some realization that the gastrointestinal difficulties are in reality but visceral expressions of the status of his personal business of living. If then the patient is given one or two common examples of visceral participation in emotional responses (such as sadness, fear, embarrassment, etc.), he will begin to cease to consider his symptoms as mysterious and ominous warnings of impending invalidism or disaster. Thus is begun the neutralization of the patient's insecurity in his body. Next, a preliminary explanation should be given to the patient of the personal and situational factors etiologic in his difficulties, bearing in mind that practically never is one situation or one personal factor the whole cause of the illness. There are always multiple factors existent in the patient's past experiences and his present environment.

He should be given insight into the fact that about all people have in common is that they are different. That is, that they cannot all do the same jobs, have the same ambitions, measure their successes with the same scale or maintain the same pace of living. He should be made to feel that his illness is a respectable one about which he can do something, with the physician's help. Thus, the re-establishment of his security in himself as a person is initiated. His family should be given an explanation of the illness if possible, so that it will collaborate with the patient and the physician in the ultimate solution of the problem. It is often therapeutically dangerous to give the psychoneurotic patient too much reassurance lest he lose his incentive to take an active part in the treatment.

Symptomatic measures intended to ease the bodily distress until the personal and underlying problems are settled should be explained for what they are. In general, symptomatic treatment consists essentially of using the various chemicals that affect the autonomic nervous system in such a way as to decrease the gastrointestinal or other visceral participations. In administering the various autonomically effective drugs for the control of gastrointestinal motor and secretory dysfunctions, it is important that the pharmacology of the drugs used be well known. Furthermore, it is highly important that smaller doses of autonomic drugs be given than is customary in other types of cases, because:

1. The psychoneurotic person is often more

autonomically labile than the average and reacts more profoundly as a result, and

2. Research has proved, and our clinical experience has confirmed the fact, that the effect obtained is dependent more on the state of the tonus of the musculature of the gastrointestinal tract than on vagal or sympathetic preponderance. (Example: if the gastric muscle tone is high, vagal stimulation causes an inhibition of muscle contraction, but if the muscle tone is low, vagal stimulation may give a pressor effect).

The medical management includes also the temporary relief of the patient's emotional tension by use of barbitol, grains $\frac{1}{2}$ to 1 (32 mgm.-64 mgm.) once to twice daily, or hydrotherapy, if available, in the form of neutral tubs (temperature 99 degrees) for one to two hours, or sprays of contrasting temperatures. As to dietotherapy, it has been our experience with these patients that radical diets are to no avail in that the patient needs a well balanced ration with sufficient vitamins, which he as a rule handles comfortably if his autonomic functions can be held in control until his emotional and volitional difficulties can be managed. In our patients with upper gastrointestinal disorders, even with actual peptic ulcer, it was seldom necessary to keep them on a modified ulcer diet longer than two to four weeks, unless of course serious hemorrhage, danger of perforation, or other complications existed. In the patients of our series with spastic or atonic large bowels, or in the "mucocolopaths," a diet yielding abundant cellulose residue has proved most efficacious. Alcohol and condiments, of course, are restricted. Mineral oil sparingly to lubricate and methylcellulose preparations to fill the bowel are helpful. Irritating cathartics, colonic irrigations and enemata are contraindicated. If anal sphincter spasm exists sufficiently, and if hemorrhoids develop as a result of this and the constipation, the brief use of cocoa-butter suppositories containing extract of belladonna, trasantine, or some other antispasmodic and some analgesic agent have been found effective. Hemorrhoidectomy should be postponed, if possible, until the patient's gastrointestinal motility disorder is controlled. Any situational factors dominant in the patient's illness must be altered, if possible. If such an alteration is impossible, then the patient, through discussions, must be led to either accept the existent facts or to modify his attitude toward them so that they are more acceptable to him.

The most important part of treatment is the procedure whereby the physician through discussions helps the patient to understand what he has to function with, how he may more effectively maintain a pace of work or living with which he is compatible, and to help him and his family understand his psychological needs and how they may be better fulfilled. Throughout the procedure, the situations giving rise to exacer-

bations are analyzed so that the patient may gradually learn to anticipate and avoid possible difficulties through modification in the management of his personality functions.

The gastrointestinal disorders that manifest personality difficulties respond, if at all, to treatment directed at the correction of the personality problems, provided that the innocent organ system in question is itself sufficiently protected from participation to the extent that irreversible and handicapping structural and functional changes occur.

In conclusion this discussion on the psychiatric aspects of gastrointestinal disorders, I feel it is in order to express my great respect for the practitioner of general medicine by emphasizing the responsibility he has in the field of preventive psychiatry, and which if taken seriously, makes his every contact with the patient a psychotherapeutic one. The practice of medicine has changed much. Nevertheless, there is one aspect about it that has not been and will not be altered. This is the matter of the partnership between the patient, seeking information and assistance and the physician, equipped by training and experience, who furnishes it. Years ago often the patient, aware only of his distress and having no understanding of its origin and its meaning, stood inarticulately by while the doctor examined him and prescribed. In that era the doctor seldom imparted any information about the disorder to the patient. Both were essentially uncommunicative and therefore neither knew much about the other. It was an association or partnership with but a modicum of sharing. In those older days the patient yielded everything to the doctor, while the latter, not from selfishness but rather out of regard for his limited knowledge of the facts of personality functioning, often felt reluctant to give freely of his learning.

Today the situation is different because the value of collaboration has been proved and accepted. As a result of education directed toward the improvement of the health and efficiency of our populace, people know more about physical and psychological medical matters than they ever knew before. Today, in this world of speed and competitiveness, the patient is becoming more acutely aware of his need to maintain greater and more comfortable efficiency in the management of his personal business of living. Facts pertaining thereto, that is, those with which psychiatry must deal, are in the main more easily grasped by people in general than are the data of anatomy, physiology, tissue pathology, biochemistry, etc. Because of this, people have come more and more to expect their doctors to be psychosomatically oriented and to give attention, without embarrassment or hedging, to their personal functions, as well as their more somatic ones. The prevention of major psychiatric illness

through the diagnosis and common sense treatment of disorders of personality, which today cause more non-effectiveness than all the somatic illness combined, is the responsibility of the general physician, who is the one, second only to the patient, to become aware that a complaint problem exists.

BIBLIOGRAPHY

1. Cannon, W. B.: The Influence of Emotional States on the Functions of the Alimentary Canal. *Amer. J. Med. Sc.*, 137:48-487 (April) 1909.
2. Schindler, R.: Die Behandlung der Psychoneuroses des Verdauungstrakts. *Arch. F. Verdaungsk.*, 44:89-105 (August) 1928.
3. Weiss, E.: Cardiospasm; psychosomatic disorder. *Psychosom. Med.* 6:58-70 (January) 1944.
4. Mittelman, B.; and Wolff, H. G.: Emotions and Gastro-duodenal Functions. *Psychosom. Med.*, 4:5-61 (Jan.) 1942.
5. Wolff, H. G.: The Human Colon. Paul B. Hoeber, Inc., 1951.
6. Billings, E. G.: Dynamics of psychotherapy; eclectic point of view. *Am. J. Psychiat.*, 106:346-351 (November) 1949.
7. Billings, E. G.: Gastro-intestinal tract disorders as manifestations of personality difficulties. *Rocky Mountain M.J.*, 39:556-564 (August) 1942.
8. Billings, E. G.: Anxiety syndrome; everyday problem of general medicine frequently confused with hyperthyroidism. *Colorado Med.*, 34:14-19 (January) 1937.

MANAGEMENT OF CONVERGENT STRABISMUS ESOTROPIA*

ALSON E. BRALEY, M.D.
IOWA CITY

WHEN A PHYSICIAN is confronted with a cross-eyed child, a series of important observations must be made. The parents will not present the child for examination unless they think something may be wrong. The physician should never consider the cross-eyed child lightly. The child is entitled to a complete examination and evaluation.

HISTORY

The history of the patient with esotropia is most instructive. A careful history should always be taken no matter how old the child. One of the most informative details in the history is the age of onset of the squint. Children learn to see as they develop single binocular vision. There appears to be a strong convergence impulse operative almost from birth, but it is not associated with accommodation. Chavasse,¹ discussing the reflexes which develop in children states that, "Broadly speaking, its (the convergence impulse) anatomical basis is complete at the age of six months. The reflexes, normal or perverted, are refined by the age of two years and are fixed by the age of five years." From this it would appear that the most opportune time to adjust perverted reflexes is during the first few years of life. If the child has been "cross-eyed" since birth, then the prognosis is poor unless considerable change can be made before two years of age. However, if the age of onset is near five years, then the

* Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

prognosis for a good functional result is excellent.

Trauma to the child may be a factor producing a change in the normal visual axis. When the child suffers an injury during the first five years of life, this may be sufficient to disrupt the normal reflex development. This is especially true when refractive errors are more marked in one eye than the other. If "fusion" is not fixed or is weak, then either trauma or severe illness may produce an esotropia. This is especially pronounced in the tense or emotionally unstable individual. These individuals may show a marked esotropia at times, while at other times little or no abnormality is evidenced.

Another salient feature in the history must be elicited: Whether the strabismus is constant or present only when the child is tired. When the parents are observing and careful in questioning the child, sometimes they may find that diplopia is present during the periods of intermittent esotropia. These parents should never be told that the child will outgrow the important finding. A past history of strabismus may be elicited in any of the family. The parents of the cross-eyed child can usually observe which eye the child may prefer. They will usually tell that one eye is straight while the other always turns. This may indicate an amblyopia or a high refractive error. The parents can also tell you if the squint is alternating. While the history is being constructed, a careful evaluation of previous treatment must be taken. In the history the following facts must be covered:

1. Age of onset.
2. Trauma or illness.
3. Diplopia.
4. Constant or intermittent.
5. Monocular or alternating.
6. Heredity.
7. Previous treatment.

EXAMINATION

The examination of the child may require several visits or periods of observation. It is imperative to obtain the cooperation of the child. In younger children an estimation of the visual acuity must be obtained. Considerable care must be exercised since children can fool even the most meticulous observer. Most children try to cooperate, and if you try to get them to see with an amblyopic eye, they will guess. The vision should always be taken in the non-fixing eye first. Several methods are available, but none are entirely adequate. The vision at best is only estimated. If the child is entirely uncooperative, then the mother can be instructed to take the child's vision. I find this method the most reliable, although the mother must be carefully instructed or the child will "read" with an amblyopic eye. At times there will be a difference in the visual acuity between distance and near, so both should be taken.

Ocular rotations are frequently rather troublesome in younger children. Many methods have been devised to get children to demonstrate their ability to rotate their eyes. Rotation of each eye individually should be taken. If the child is cooperative, considerable information can be obtained by ocular rotation. In the simple concomitant esotropia the medial recti will be overacting, while the lateral recti will show weakness or slight nystagmoid movements. In young children the lateral recti may appear so weak that they seem to be paralytic. If the vision is almost equal in each eye, the child may alternate fixation on rotation, giving the appearance of a bilateral lateral recti paralysis. If the squint is monocular, then the overacting muscles may be the medial rectus on the side of the non-fixing eye, while the lateral rectus may appear to be weak. The fixing eye then shows complete rotation. Other extra-ocular muscles may also be overacting in rotation in esotropia. Most commonly the inferior oblique is overacting, and as the eye turns in it also goes up slightly. This is especially common in the tense and emotional child.

A good deal of information can also be obtained in determining fixation preference on the part of the child. By and large the child will fix a light or object with the better seeing eye. If the child always fixes with the same eye, then the vision may be poor in the other eye, or the refractive error high. If there is no preference for fixation, then the child is usually alternating. One must also be on the lookout for eccentric fixation.

The measurement of the deviation may be done by several methods. I find the prism cover test the most reliable method. This method is the best objective means to determine the extent of the squint. In young children the deviation must be estimated. The estimation is made by observing the reflex of the light on the cornea. For each millimeter of deviation from the normal center of the cornea the angle of squint is said to be 7 or 8 degrees. If the light reflex falls on the temporal edge of the pupil in the non-fixing eye, then the angle of the squint is said to be 20 degrees. If the light reflex falls on the limbus, then it is approximately 45 degrees. Many observers like to use the hand perimeter to measure the squint in young children. Two lights are held at 33 cm. with the eye fixing either at 6 meters or at 33 cm., and the one light placed so the reflex is in the center of the pupil of the fixing eye. The second light is moved around the arc of the perimeter until its reflex is in the center of the pupil of the deviating eye, and the degree of arc read on the perimeter. While I am measuring the angle of deviation, I like to try as many subjective tests as I can to determine the presence of minor variation and abnormal retinal correspondence. When I have the prisms over the

eyes, I try to bring out diplopia with a small vertical prism held over one eye. Then a red glass is held over one eye, and the subjective difference observed. If one light is above the other or nearly so, then there is normal correspondence. However, if one light is at a considerable distance away from the other, then abnormal correspondence is probably present. When the squint is being measured, it is also important to observe the angle Kappa as well as the correspondence. With the prism cover test the angle Kappa does not have to be considered provided the fixation is good in each eye, since you are measuring on the visual axis of each eye.

The determination of the refractive error by objective and subjective methods must be done. Since children have so much accommodation and especially when they have esotropia, the best cycloplegic is none too good. I have been disappointed in the cycloplegics I get from three days on 0.5 per cent atropine so I prefer to give the cycloplegic in the office. My method of cycloplegic is as follows: One drop of 0.5 per cent pontocaine is instilled followed in one or two minutes by one drop of 5 per cent homatropine in 1:5000 zephiran. The pontocaine gives some anesthesia and the strong homatropine and zephiran will not "burn" in the conjunctiva. The pontocaine also enhances the entrance of the homatropine into the anterior chamber, as likewise does the zephiran. This is followed in two or three minutes with a drop of paredrine to stimulate the dilation fibers, and then a drop of 1 per cent atropine or 1/5 per cent scopolamine solution. Cycloplegia is usually very good in from 40 to 75 minutes. The children rarely get the flush and toxic effects that are so common with three days on atropine, and I find the cycloplegic much better than when I depend upon the mother to put in the drops.

A careful retinoscopy is always done, followed by the subjective examination. I tend to rely more and more on retinoscopic findings even in older children. At the same time a careful ophthalmoscopic examination is made, and the macula is especially observed for abnormalities. The grade of superposition is observed under cycloplegic.

Examination.

1. Visual acuity.
2. Rotations.
3. Fixation.
4. Measurement of deviation.
5. Refraction.
6. Ophthalmoscopy.
7. Correspondence.
8. Grade of fusion.
9. Angle Kappa.

Clinical Classification of Esotropia.²

I. Concomitant esotropia.

A. Accommodative.

1. Alternating.
2. Monocular.

B. Non-accommodative.

1. Congenital.
2. Traumatic or toxic.
3. "Mechanical."

II. Noncomitant esotropia.

1. Anatomical.
2. Paretic.

It is not always possible to classify each case of esotropia, but if one follows the patient very carefully, a great deal can be determined regarding the prognosis and the value of treatment. In any case we should strive for a complete functional result. I feel that if this result can be obtained during the first eight to ten years of life, then many of these individuals will be normal through life. I attempt to get complete functional results without glasses by the age of 15. Many times this is not possible, since strong cylinder corrections are sometimes necessary in order to obtain good vision. The next criterion is good visual result in both eyes, even though functional result is not possible. The vision should be normal in both eyes with or without glasses. The last objective is to try to get a good cosmetic position during the teen and young adult age. This is equally important in boys as well as in girls. The eyes should appear straight all the time for both distance and near. In most cases it is desirable to have the eyes straight with and without glasses. While the ideal is not always possible, I will attempt to discuss the treatment in order to get the best possible result.

TREATMENT

During the early years it is essential to carefully correct the refractive error. It is good practice to reduce the cycloplegic refraction about half a diopter for the first six to twelve months. After this the patient should be re-refracted under cycloplegic, and if the amount of hyperopia is increased, then a full correction should be given.

Treatment of Amblyopia

Total and constant occlusion of the good eye should be carried out. The good eye should be watched carefully for signs of visual loss. If the vision in the amblyopic eye begins to improve, then alternate occlusion seems to be indicated. I have found that watching television, home movies and games may be helpful in improving amblyopia. Since children like many of the television shows, they will try to see them with more effort than with games. If the amblyopia is marked, it may be necessary to use flashing lights to stimulate vision. Macular massage with the major amblyoscope may be worth while. When macular massage is used, the stimulation

should be carefully performed with the fixation maintained with the good eye. Each child will require individual means to improve vision.

Abnormal Retinal Correspondence

It is impossible to discuss anomalous correspondence without considerable detail. Normal retinal correspondence is present when the visual axes fall on correspondent points on the retina. If esotropia is present, normal correspondence is present when the objective and the subjective angles are the same. If the subjective angle of squint is less than the objective angle, then anomalous retinal correspondence is said to be present.

There are many methods of measuring retinal correspondence. The simplest method has already been described, and can be done without extra equipment. One simple method is to use a major amblyoscope, while the Lancaster red-green and the after-image tests are also worthwhile. These latter two tests are useful in determining prognosis of treatment. The best means of overcoming abnormal correspondence is somewhat controversial at the present time. It is the opinion of most ophthalmologists and orthoptists that occlusion, macular massage with the major amblyoscope, physiological diplopia, and other orthoptic measures seem to be the most reliable. I am of the opinion that children who have anomalous correspondence should be set straight surgically after the vision is nearly equal, followed by vigorous macular massage and occlusion. If the anomalousness is not too deep seated, then surgery followed by a short period of orthoptics, with home physiological diplopia will be sufficient to

return the correspondence to harmonious position.

SURGERY

During the past eight months we* have operated 44 cases of esotropia. I think that the best method of treatment of esotropia is to place the eyes in the physiological position. I also think this should be done as soon as the child is given the fundamentals of superposition, and has nearly equal vision in each eye. I like to set the eyes straight with one operation. I, therefore, operate two or more muscles at one time.

Most esotropias on rotation show some overaction of the medial rectus of one eye, and a weakness of one of the lateral recti muscles. It is important to resect the lateral rectus muscles on the same side that a recession is performed in order to get the full effect of each operation. The equator of the normal eye is from 14 to 14.5 mm. behind the limbus. However, in most hyperopic eyes the equator is 12 to 14 mm. The medial rectus should not be recessed to the equator so as not to disturb the normal rotation of the eye. I never do more than 5 mm. of recession, and I prefer not to do more than 4 mm. When doing a resection, I like to do enough to take up the slack in the medial rectus, and at the same time increase the power of the weak lateral rectus.

The results of surgery are tabulated in the following chart.

The choice of the type of surgery is dependent on the following facts:

* The patients were operated by the entire staff of the Department of Ophthalmology, University of Iowa. I examined all the patients, and decided on the amount of surgery.

RESULTS OF SURGERY OF COMBINED RECESSION AND RESECTION IN ESOTROPIA

| | | | | | |
|--|----------------------------------|--------|--|--------|--------|
| Esotropia prior to surgery, with glasses 5° to 30° 10 cases | 3 mm. Recession Medial Rectus | | 10 mm. Resection Lateral Rectus Muscle balance Postoperative 2 weeks to 3 months, 5° exotropia to 5° esotropia 6 eyes straight | A.R.C. | N.R.C. |
| | A.R.C. | N.R.C. | | | |
| | 6 | 4 | | 3 | 7 |
| Esotropia prior to surgery, with glasses 15° to 30° 4 cases | 4 mm. Recession Medial Rectus | | 10 mm. Resection Lateral Rectus Muscle balance Postoperative 2 weeks to 2 months, 5° exotropia to ortho | A.R.C. | N.R.C. |
| | A.R.C. | N.R.C. | | | |
| | 4 | 0 | | 2 | 2 |
| Esotropia prior to surgery, with glasses 10° to 45° 17 cases | 4 mm. Recession Medial Rectus | | 12 mm. Resection Lateral Rectus Muscle balance Postoperative 2 weeks to 2 months, 10° esotropia to ortho | A.R.C. | N.R.C. |
| | A.R.C. | N.R.C. | | | |
| | 8 | 9 | | 4 | 13 |
| Esotropia prior to surgery, with glasses 10° to 30° 4 cases | 3 mm. Recession Medial Rectus | | 12 mm. Resection Lateral Rectus Postoperative 2 weeks to 3 months, 10° exotropia to 10° esotropia | A.R.C. | N.R.C. |
| | A.R.C. | N.R.C. | | | |
| | 4 | 0 | | 4 | 0 |
| Miscellaneous Group | | | | | |
| Resection and Recession varies from 5 mm. recession to 3 mm. recession, combined with 5 mm. resection to 14 mm. resection. | | | | | |
| Preoperative 45+° to 20° 9 cases | A.R.C. | | Postoperative ? Ortho to 25° esotropia | A.R.C. | N.R.C. |
| | A.R.C. | N.R.C. | | | |
| | 6 | 3 | 2 | 2 | 5 |

1. Age of child, and age of onset of squint. When the squint develops at or near birth, more surgery is required than when the squint develops later. If the esotropia occurs between three and four years of age, then considerable caution must be exercised when surgery is necessary.

In young children with esotropia of from 30 to 45 degrees, better position of the eyes will result with smaller amounts of surgery than in older children. Older children require more recession and larger resection.

2. Difference between the esotropia with and without glasses. If the glasses reduce the degree of esotropia considerably, then small recession with apportionate small resection should be done. If the glasses do not reduce the squint, then more recession must be done.

3. Monocular and binocular rotation. Esotropia will usually be associated with overaction of one or both medial rectus muscles and weakness of one or both lateral rectus muscles. The recession should be on the medial rectus that appears to be the most overactive, and the resection should be done on the opposing lateral rectus.

4. Appearance of esotropia under anesthesia. Young children under deep anesthesia may still show esotropia. This indicates that up to 5 mm. recession of the medial rectus may be done, with a 10 to 12 mm. resection of the lateral rectus.

If the eyes are nearly straight under anesthesia, then up to 4 mm. recession of the medial rectus with 8 to 10 mm. of resection of the lateral rectus may be done. When the eyes are divergent under anesthesia, then the recession of the medial rectus should be approximately 3 mm., while the resection of the lateral rectus should be up to 8 mm.

Following surgery, orthoptic training and home exercises must be continued. The child should be taught physiological diplopia and other skills, and the parents instructed to help the child use the stereoscope. If amblyopia and abnormal correspondence are still present, then occlusion should be continued. It is wise to alternate occlusion postoperatively, and to give the child periods of no occlusion. Every effort should be made to stimulate simultaneous perception and subsequent fusion. I think it is worthwhile to have the child practice physiological diplopia several times a day while in school as well as at home.

SUMMARY

The treatment of esotropia requires patience on the part of the parents, doctor and the child. Every child with esotropia is entitled to a careful workup and treatment, with the subsequent aim at functional orthophoria with or without glasses. It is not always possible to arrive at functional orthophoria in every case. Many factors prevent us from getting orthophoria, but one of the most important is the laxness of physician and parents.

Every esotropia or possible esotropia should be examined when it is discovered. If the esotropia is intermittent, then a short period of wearing glasses may be all that is necessary. If you do not find an esotropia on first examination, then the child should be examined repeatedly. The treatment consists of careful orthoptics carried on with the cooperation of the child, parents, orthoptic technician and the physician. As the treatment progresses, surgery should be considered at the proper time.

BIBLIOGRAPHY

1. Chavasse, B. T.: *Worth's Squint*. Seventh Edition. Philadelphia, The Blakiston Co., 1939.
2. Costenbader, Frank B.: *Allen's Strabismus Ophthalmic Symposium*. First Edition. St. Louis, The C. V. Mosby Co., 1950. (Modified).

FOREIGN BODY IN THE CAECUM CAUSING SYMPTOMS OF ACUTE APPENDICITIS

HENRY C. SCHARNWEBER, M.D.

BOONE

THE FINDING of foreign bodies in the bowel, and especially in the caecum during laparotomy is not rare and these ingested foreign bodies frequently cause symptoms suggestive of acute appendicitis. Macmanus¹ reviewed the literature in 1941 and collected 93 cases of intestinal perforation by ingested foreign bodies, adding two cases of his own. The foreign bodies found ranged from common pins, fish bones and screws to toothpicks and wooden splinters. In Macmanus¹ study, toothpicks were found to be the offending foreign body in nine cases for an incidence of nine per cent.

There were however, no cases reported either in Macmanus¹ study or in the other reports: McLanahan,² Barrett and Leader,³ Weintrob and Granet,⁴ and others in which the foreign body whatever its nature had not already perforated the bowel at some point; usually in the region of the illeo-cecal valve or caecum.

The following case of a toothpick in the caecum causing symptoms of acute appendicitis is therefore of interest because it had not perforated the wall of the bowel at the time of operation but was found lodged in the caecum, lying transverse to the axis of the bowel. It is also of interest that my patient was not aware of swallowing the toothpick because he wears dentures and ate the toothpick in a sandwich held together with a toothpick. It was first suggested by Wientrob and Granet⁴ and later emphasized by Snodgrass⁵ and Olsen,⁶ that persons wearing an upper denture lose the tactile sensation in the palate provided by nature as a safeguard against the accidental swallowing of foreign bodies. As Wientrob and Granet⁴ pointed out, and this case bears out, the custom of serving club sandwiches and hors d'oeuvres held together with toothpicks has

given rise to a serious hazard to those who wear upper dental plates.

CASE REPORT

H. N. M., a 48 year old auto dealer presented himself for examination because of pain in the right lower quadrant of the abdomen which had been present for some 28 hours. He gave a history of experiencing some vague abdominal distress two days before and because of chronic constipation had taken a mild saline laxative. His distress was not relieved and in fact had become more severe about 12 hours before consulting me. He stated that his pain was somewhat intermittent and crampy in character, with occasional severe shooting pains radiating into the right groin. There were no urinary symptoms, no nausea or vomiting. The physical examination was negative except for the abdominal findings. There was tenderness fairly well localized to the right lower quadrant of the abdomen and also tenderness along Poupart's ligament. There was no tenderness of the testicle. There was only slight muscle spasm in the right lower quadrant of the abdomen and no rebound tenderness. Rectal examination revealed the prostate to be normal in size and consistency and not tender. Rectal examination did however reveal tenderness in the right adnexal area. Examination of the urine revealed specific gravity of 1.018; there was no albumin or sugar. There was an occasional white blood cell seen but no red blood cells. Blood count revealed a white count of 14,350; red blood count of 4,600,000; hemoglobin 90 per cent of normal. Differential showed 90 per cent polymorphonuclear leukocytes and 10 per cent lymphocytes.

A diagnosis of acute appendicitis was made and the patient was admitted to the Boone County Hospital for surgery. The patient was operated under general ether-oxygen anaesthesia after sodium-pentothal induction. A right rectus incision was made and the appendix was visualized. The appendix appeared entirely normal but as it was being delivered into the wound a foreign object was felt in the caecum. The object was found to be lying transversely in the caecum and was almost perforating the anterior wall. The object felt to be slender, sharp and about one and three-fourths inches in length. The caecum was carefully examined for perforations but none could be demonstrated and there were no signs of peritoneal spill. The foreign body was gently manipulated into the lumen of the appendix and the appendix was removed in the usual manner. The abdominal wound was closed in layers and the patient was returned to his room in good condition.

Upon opening the specimen (appendix) the foreign object was found to be a common toothpick. When the patient's wife was informed of the findings she immediately recalled having served broiled weiner sandwiches held together

with toothpicks, four days previously. The patient made an uneventful recovery and was released from the hospital on the seventh post operative day.

SUMMARY

This case is interesting because it re-emphasizes several points:

1. Non-perforating foreign findings in the caecum can cause symptoms and clinical findings of acute appendicitis.
2. Toothpicks can be easily and unknowingly swallowed by persons wearing dentures.
3. Non-perforating foreign bodies can be removed by manipulating into the appendix and thus their removal be accomplished without peritoneal contamination.
4. Since the mortality rate of ingested foreign bodies as reported by Macmanus¹ was 10 per cent in 59 cases occurring since 1900, the diagnosis of ingested foreign bodies and especially toothpicks should be considered and prompt measures taken in any patient who wears dentures and complains of vague abdominal pain.

BIBLIOGRAPHY

1. Macmanus, J. E.: Perforations of intestines by ingested foreign bodies; report of two cases and review of literature. *Am. J. Surg.*, 53:393-402 (September) 1941.
2. McLanahan, S.: Perforation of cecum by toothpick, simulating acute appendicitis. *J. A. M. A.*, 95:1424 (Nov. 8) 1930.
3. Barrett, W. D.; and Leader, L. R.: Perforation of the caecum by a toothpick; case report and review of literature. *Harper Hosp. Bull.*, 1:120-122 (May) 1942.
4. Weintrob, M.; and Granet, E.: Management of swallowed sharp foreign bodies. *J. Internat. Coll. Surgeons*, 8:459-468 (Sept.-Oct.) 1945.
5. Snodgrass, T. J.: Foreign bodies in intestinal tract. *Arch. Surg.*, 55:441-456 (October) 1947.
6. Olsen, C. W.; Johnson, G. E.; and Bilek, G.: Toothpick in ascending colon. *Illinois M. J.*, 94:374-375 (December) 1948.

State University of Iowa
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

January 16, 1952

SUMMARY OF CLINICAL RECORD

This four year old male child's difficulties began about 28 months before his admission to the University Hospitals. At that time he was standing on a chair and fell to the floor. Although he landed on his feet, he struck his left hip on the edge of the chair. The skin was not broken, and the boy did not complain. About six weeks later, though, his parents noted he favored his left leg and was "limping," but he did not complain of pain or distress of any kind. The parents were informed that measurements of his lower extremities showed the left leg to be one-half inch shorter than the right. A "dislocation" was diagnosed and treated with massage for about two months. These treatments apparently benefited the boy, and the limp "almost disappeared."

About four months following the original fall,

the boy had an acute febrile illness with chills, cough, nausea and vomiting. A diagnosis of "virus flu" was made, and he was treated with "shots and cough syrup." He was in bed for two weeks; then ambulatory for three days before an attack of measles. He was in bed for another nine days, then with ambulation complained of pain in the left hip for the first time. He now favored the left leg much more, holding the left thigh flexed and hopping on the right foot. An x-ray film was taken of the left hip, and a parent was told the boy had had an attack of "polio," and that the leg should be massaged.

During the next six months, improvement was equivocal, and another x-ray film was taken of his left hip, and was again interpreted as poliomyelitis.

The limp became more pronounced during the next six month period. Another x-ray film of the left hip was interpreted as "Perthe's disease," although a consultant raised the question of possible tuberculosis of the hip. X-ray examination of the left hip by another radiologist one month later was interpreted as Perthe's disease, and treatment was begun. The regimen included injections of vitamin B₁₂, strapping of the left leg, and the use of crutches.

Two months later, about 21 months after his precipitating fall, he was examined in one of the mobile clinics of the State Services for Crippled Children. He was found to have a flexion contracture of 60 degrees of the left hip with considerable voluntary spasm. Motion was "restricted to 20 degrees flexion from contracted position, to 10 degrees external internal rotation, and 0 degrees abduction and adduction." The entire left lower extremity showed atrophy. Leg measurements were 17½ inches on the right and 17 inches on the left. Radiological examination included an antero-posterior film of the pelvis and a lateral film of the left hip. The report read in part . . . "shows a normal right hip. The cartilage space of the left hip is slightly narrowed. There are several areas of reduced density in the left acetabulum with loss of articular cortex of the left acetabulum. The articular cortex of the head of the left femur also shows some decrease in density. The head of the femur is atrophied to the same extent as the surrounding bone, although it is flattened somewhat as compared with the normal side."

Shortly after this examination the boy began to cry at night and complain of more pain in the left hip. During the next six or seven months preceding his admission to University Hospitals, several x-ray films showed progression of the hip lesion, and various casts were applied. About ten days before admission the child began to have "trouble getting his breath and coughing." The cough was non-productive without chest pain or hemoptysis. X-ray films of the chest were reported "clear."

No findings considered contributory to the boy's ailment were discovered in his past history. His mother, father, and three siblings were alive and in good health. A paternal grandfather had had tuberculosis, and a paternal aunt had tuberculosis during this child's illness, but there was no recorded contact among them.

The admission physical examination revealed no significant abnormality except in the region of the left hip and inguinal region. The shortening noted previously persisted with flexion at knee and hip joints. A fluctuant mass 2 x 3 x 1 cm. was noted in the left inguinal region. It was located just below and just medial to the midpoint at Poupart's ligament. It was neither hot nor tender. X-ray films were taken of the chest, pelvis and both hips.

Nine days after admission 40 ml. of greenish-yellow, turbid, odorless fluid was aspirated from the left inguinal mass and sent to Bacteriology for analysis. Traction helped to relieve the flexion contracture of the hip. Six days after aspiration of the inguinal mass, it was reforming, and during the next five days continued to increase to "the size of a lemon." The overlying skin showed no signs of dissolution. Although traction overcame the contraction of the left hip, it quickly returned when traction was released. Antibiotic therapy was now begun for the first time.

The next day a surgical operation was performed on the left hip. The boy tolerated the procedure well, and continued to progress satisfactorily for the next two weeks. Then he began to have nausea and vomiting on several occasions and a low grade fever with diurnal elevations up to 101-102 degrees F. The cast was changed, and the operative wound seemed to be healing satisfactorily. Urine examinations were normal. Blood examination showed hemoglobin 10.5 Gm. per 100 ml.; erythrocyte count 3,700,000 per cu. mm.; leukocyte count 7,200 per cu. mm. A chest x-ray was obtained and a blood transfusion given. Two days later he complained of headache in the left frontal region, and antibiotic therapy was stopped. Neurological examination was not abnormal.

The following day a pediatric consultant thought the spleen was somewhat enlarged and that there was some pain and questionable slight limitation of ante flexion of the neck. Another x-ray film of the chest was obtained. No response to the withdrawal of the antibiotic was observed. Three days later a lumbar puncture was performed with the following results reported on the chemical examination of the spinal fluid: protein 114 mg. per 100 ml.; sugar 30 mg. per 100 ml.; chlorides 690 mg. per 100 ml. There were 385 cells per cu. mm., about 16 per cent being polymorphonuclear leukocytes and 84 per cent being lymphocytes.

During this time his general condition progressively failed and was associated with failure

to eat and drink so that parenteral therapy was necessary. The operative wound of the left hip continued to heal satisfactorily. Vigorous antibiotic therapy was again begun, but the boy's clinical course was one of progressive deterioration. On the fifty-ninth hospital day he developed a left internal squint which persisted. Two days later he had two generalized convulsions accompanied by hypertension and incontinence just after receiving 500 cc. of parenteral Amigen. During the next three weeks he had convulsions associated with Amigen administration. Amigen was discontinued, but no more convulsions were observed until death.

During the last month of his illness he was given additional intrathecal therapy. Lethargy, intermittent fever, irritability, and unresponsiveness characterized his clinical course during this time. He died quietly on the one hundred tenth day of hospitalization.

NECROPSY FINDINGS

The chief autopsy findings were related to the left hip region and the central nervous system. A healed and fusing surgical repair of the head of the left femur was observed. The femoral head was within the acetabulum, but the articular cartilage was missing. No residual tuberculosis reaction was demonstrated in this area. The left femur was about one and one-half inches shorter than the right. Caseation necrosis was noted in the soft tissues in the lesser trochanter region. One small intramedullary focus of tubercle formation and caseation necrosis was seen in the sections.

The brain was enlarged and edematous with moderate internal hydrocephalus. Extensive tuberculous meningitis involved both brain and upper spinal cord. Ependymitis was also present. No anatomical lesion of primary infection tuberculosis was found in lungs or intestines, nor was a tuberculoma found in the brain. The right adrenal showed some diffuse, chalky, pin-point sized lesions on the cortical surface.

NECROPSY DIAGNOSIS

Tuberculous meningitis, brain and spinal cord.

Tuberculous ependymitis.

Internal hydrocephalus, moderate.

Tuberculosis, left hip, post-operative.

Pulmonary congestion and edema, severe, bilateral.

Dr. Jack M. Layton, Pathology: What is the student opinion of this boy's difficulty at the time of his admission to University Hospital?

W. B. Roudybush, Junior Student: It was the opinion of the Junior Class that this young man had tuberculous osteomyelitis with abscess of the hip. In our differential diagnosis we considered Perthe's disease, brucellosis, typhoid, mycotic infection of the hip joint, Ewing's tumor and a pyogenic arthritis.

Dr. Layton: Why did you select tuberculosis from among these other possibilities?

Mr. Roudybush: We thought flattening of the head of the femur and narrowing of the joint space in the x-ray picture would indicate tuberculous osteomyelitis rather than Perthe's disease for in the latter one sees widening instead of narrowing. Brucellosis is a self-limiting disease generally. Typhoid would not extend over this long a period, I would not believe. Mycotic infection is rare. However, it might be difficult to differentiate from osteomyelitis. Ewing's tumor was readily eliminated because its x-ray appearance did not seem to conform with our protocol. A pyogenic arthritis would have given a more acute condition or else would be very chronic. I believe fever, leukocytosis and the various other manifestations of a pyogenic arthritis would have been revealed; and, furthermore, I do not believe we would have seen this x-ray appearance.

Dr. Layton: How do you suppose this tuberculous infection got to the hip joint?

Mr. Roudybush: Since there is a family history of low resistance to tuberculous infection, it is possible this boy had a low resistance and that he contracted the infection from one of the relatives. I presume it to have been from pulmonary involvement, since bone tuberculosis is secondary to tuberculous lesions elsewhere.

Dr. Layton: Do you think any of these febrile episodes that he had, for example, the illness called "viral flu" or the respiratory type illness which brought him into the hospital, may have been pulmonary tuberculosis?

Mr. Roudybush: I think the "viral flu" could have been tuberculosis.

Dr. Layton: I will ask Dr. Van Epps to show the x-ray films that were taken.

Dr. Eugene F. Van Epps, Radiology: The first examination was done on May 11, 1950, at one of the mobile clinics. It was from these films that the orthopedic surgeon made his diagnosis of a tuberculous process involving the hip joint. The findings are: severe osteoporosis, soft tissue swelling involving the hip joint, and areas of rarefaction in non-weight bearing portions of the acetabulum and ischium.

Our first examination at the University Hospitals was on January 18, 1951. Now there is extensive soft tissue swelling about the hip, inguinal and gluteal areas. Osteoporosis has increased and now periosteal new bone is being laid down along the lateral and superior shaft of the femur. The acetabular destruction has progressed and involves the ischium as well. In the lateral view the femoral capital epiphysis has been destroyed partially so that it no longer is clearly visible. Postoperatively there has been resection of a portion of the acetabulum. Soft tissue swelling, though still present, is much less.

The lungs showed no evidence of recent or old tuberculous infection. It is true, as mentioned

by the student representative, that endobronchial tuberculosis can be present and not demonstrable by x-ray examination. In this individual there was no evidence of a healed primary tuberculous complex, but we must remember that a tuberculous focus can heal without calcification and, therefore, not be detectable.

The differential diagnosis of tuberculosis of the hip joint includes Legg-Perthe's disease. In tuberculosis the outstanding feature is the degree of osteoporosis demonstrable early in the course of the disease. This finding coupled with soft tissue swelling involving the joint is further evidence that a tuberculous infection is present. These two findings, however, are not pathognomonic of this disease since an early suppurative arthritis can produce similar findings. Time is a necessary factor in differential diagnosis, since suppurative arthritis is usually an acute, severe, febrile disease with early destruction by proteolytic enzymes of the cartilage surrounding a joint. In tuberculosis the process has a slow, insidious onset and late destruction in the non-weight bearing portions of the joint. Destruction is present, but rarely does any proliferation of bone occur in tuberculosis. The hip joint becomes narrowed very late in the course of the disease. Sequestration can and does occur, but this, too, is very late.

Roentgenographically Legg-Perthe's disease produces widening of the epiphyseal line and irregularity of the metaphyseal junction. At no time is there any destruction of the articular cortex. This is of importance in distinguishing it from tuberculosis. The joint space is normal or perhaps slightly widened. Distention of the articular capsule can occur. The amount of atrophy or osteoporosis is in no way comparable to that seen in tuberculosis. Even in a patient who is under treatment, the osteoporosis is never as severe as that seen in tuberculosis. As the destructive changes occur, areas of rarefaction occur in the femoral capital epiphysis. Later on the head becomes broad and flat and the femoral neck becomes widened and develops a degree of anteversion. When regeneration begins, it is shown by recalcification of bone at the site at which the osteoporosis first began.

It has recently been shown that Legg-Perthe's disease is a phenomena secondary to occult hypothyroidism. Treatment with thyroid has resulted in spectacular cures in a matter of months, whereas the usual course runs about 18 months.

Dr. Layton: Dr. Ponseti, would you tell us what was done at the time of the operation and what the operative findings were?

Dr. Ignacio V. Ponseti, Orthopedics: The operation was done to hasten the fusion of the hip joint. When the hip joint was explored the capsule was found to be very thickened and edematous. There was greenish fluid in the joint, and the head of the femur and the acetabulum

were found to be quite extensively destroyed. The acetabular roof was found to have many small and large cavities full of caseous material and there was advanced destruction of the cartilage of the head of the femur and of the bone underlying the cartilage. After the removal of this diseased tissue, the head of the femur was placed against the acetabulum. A hip spica cast was then applied.

Dr. Layton: I would like to know what Mr. Roudybush thinks happened to the boy two weeks after the operation.

Mr. Roudybush: I believe it is possible he had a miliary dissemination of the disease and the tubercle bacilli were spread especially to the central nervous system and spinal cord. This irritation was manifested by the limitation of ante-flexion of the neck. His general inanition from a chronic disease could have contributed to the downhill progress at this time. I think he had tuberculous meningitis. The spinal fluid findings are consistent with this diagnosis. The protein was high, and there were many cells, especially lymphocytes which is in accordance with tuberculous meningitis. The chlorides are a bit lower than normal, and the sugar was below normal.

Dr. Layton: Many believe that tuberculous meningitis is associated with the breakdown of a tuberculoma in the nervous tissue which originated from some previous dissemination of the disease.

The clinical diagnosis on the ward was tuberculous meningitis. It was considered that the boy died with this form of tuberculosis.

Student: Is there any possibility of the surgical intervention in the hip causing spread of the tuberculosis?

Dr. Layton: There are two schools of thought on that particular question. One group would have it that at the time of the operative procedure various lymph and blood vascular channels were opened, that the bacteria entered the circulation through these channels, and widespread dissemination occurred. Another group would have it that this is a reinfection type of tuberculosis, that the dissemination might just as well have occurred had not any type of intervention taken place, because in many instances this is the natural history of the disease. I do not believe we are in a position to definitely answer the question in this particular case. In addition to the findings noted in the necropsy summary, there was considerable fibrosis between the cold abscess anteriorly and the operative site posteriorly so that at the time of autopsy we could not discern the fascial plane along which the abscess travelled to present in the region of Pourpart's ligament.

It is of considerable interest that there was no evidence of primary infection type tuberculosis in the lungs. A specific search was made for such a focus and neither a lesion in the lung nor the

accompanying hilar lymph node involvement was found. A search was also made for a gastrointestinal portal of entry. No caseous lymph nodes were found in the mesentery nor were any areas of scarring found on the serosal surface of the bowel. Nor was a tuberculoma found in any part of the nervous system. All of the tuberculous involvement of the nervous system seemed to be consistent with the child's terminal course.

Because we are a little puzzled as to the pathogenesis of the lesions here, I have asked Dr. Jeter if he might have a few comments to make on this enigma.

Dr. W. S. Jeter, Bacteriology: The bacteriological findings in this case showed acid fast rods on smear. The organism *Mycobacterium tuberculosis* was isolated from the guinea pig inoculated with the specimen. One question which might arise here in deciding the source of infection was to decide whether this was a human or bovine strain. This procedure was not requested. The differentiation is made in the rabbit and is rather time consuming. The bovine strain quite markedly affects the rabbit, whereas the human strain does not. Of course, both strains affect the guinea pig. Also, it is possible to use glycerin as a differential culture ingredient. The bovine strain grows rather poorly in the presence of glycerin; the human strain quite well, although this is not as satisfactory a differentiation as is the rabbit inoculation. In the case today, whether the source was the infected people in the surrounding area or whether it was from milk or some other source, might be partially traced if this information were available.

Another bacteriological procedure, the outcome of which would be interesting to know, would be the streptomycin sensitivity of the organism. Again this is not a routine procedure and a time-consuming one. We are finding roughly three types of organisms with respect to streptomycin sensitivity; those which are susceptible, those which are resistant and more recently a number of strains which apparently are dependent upon streptomycin. Another factor which could have contributed to our knowledge would have been to know the state of hypersensitivity of the patient to tuberculin during the interim period between the initial insult of the disease and the progress of the infection during hospitalization here.

Dr. Layton: Dr Ponseti sees a good number of these patients in the clinic. Maybe he could tell us about tuberculous osteomyelitis, the natural course of the disease and how they have been able to modify it.

Dr. Ponseti: In the discussion by the student I was somewhat disappointed by the fact that he made the differential diagnosis between tuberculosis and Perthe's disease only on the basis of the roentgenograms. Actually the differential diagnosis of hip disease should be made early

and almost exclusively on clinical signs, as roentgenographic signs usually appear late. The history of this patient is typical of hip tuberculosis, although Perthe's disease could have been considered during the early stages.

Osteomyelitis, or suppurative arthritis, is much more acute, produces a high fever and the patient is brought to the hospital often as an emergency. Drainage of the joint must be done immediately.

There is a type of chronic or subacute synovitis of the hip joint which is called non-specific synovitis, and it usually occurs in children three to seven years of age, the same age group in which Perthe's disease and tuberculosis are seen. The patient with this synovitis has some pain in the hip joint and slight swelling. You may be able to aspirate some clear joint fluid. The symptoms usually last for about one or two months and leave no sequelae. The roentgenograms are negative except for slight enlargement of the capsular shadow. I have been interested in this problem and have found that in a certain percentage of these children this so-called non-specific synovitis follows a virus pneumonia either diagnosed before or at the time we see them. Dr. McKee is now attempting to culture virus from the joint fluid. Non-specific synovitis may end up by being just a virus synovitis. We do not know but we often see patients with slight pain in the hip joint, slight limitation of motion, and slight limp who recover completely in a few weeks. For lack of a better term, we diagnose non-specific synovitis.

The patients with Perthe's disease have similar symptoms which persist for months and years, and present the typical roentgenographic picture with necrosis, fragmentation and finally flattening of the femoral head.

In reviewing the history of our patient, trauma is the first thing noted. In skeletal tuberculosis there is often a definite trauma which antecedes the symptoms. There is tuberculosis in the family history. The patient limped before he had pain. A limp early in the disease can be seen in hip tuberculosis, in Perthe's disease and in non-specific synovitis. Then the patient had a progressive "shortening of the leg." The parents were informed that measurements of the lower extremities showed the left leg to be shorter than the right. Why was the left leg shorter than the right if the boy had the disease for only a few weeks? Obviously the bone was not getting shorter that quickly. When you see a patient who walks with a leg that appears to be shorter than the other, you have to think that there is probably not an actual shortening of the extremity, but an apparent shortening. In other words, if the hip joint is diseased there will be a contracture, either in flexion or in adduction or both. As in walking the legs must be parallel, if there is an adduction contracture, the pelvis of the diseased side must be raised. This produces an

apparent shortening of the extremity. Severe hip contractures are very rarely seen in Perthe's disease. Slight degrees of hip contracture may be seen but they are easily overcome by bedrest in a few days; whereas, a flexion or adduction contracture due to hip tuberculosis are, of course, part of the clinical picture.

The boy had night cries. Night cries are another typical sign of a serious inflammation of the hip joint. Night cries associated with inflammation of the hip joint are due to relaxation of the protective muscles allowing motion at the joint, which is painful and the boy cries. In Perthe's disease, night cries are observed only in very exceptional cases.

Four or five months after the onset of the original symptoms, the patient had an acute illness which was diagnosed as "virus flu." It is difficult to say what that acute episode was. However, acute exacerbations are frequent in the evolution of a tuberculous joint. The primary focus of tuberculosis often is not in the synovia, but rather underneath the joint cartilage in the acetabular roof or in the neck of the femur. There is a cavity with caseation and some productive tubercles. Because of a fall or because of a weakening of the general resistance this lesion opens into the joint and causes a great increase of pain, sharp elevation of temperature and severe generalized symptoms.

I should judge from experience that is what happened to this boy five months after the onset of the illness. Then he had the measles and refused weight bearing. A child who refuses weight bearing has a serious disease of the joint. This child did so for some time. Then the x-rays showed what we thought was a fairly good picture of tuberculosis. You can not blame the roentgenologist who looked at the pictures before that time for making a diagnosis of Perthe's because at the beginning the differentiation between Perthe's and tuberculosis is difficult on the reontgenograms, but clinically the differentiation is, perhaps, made easier.

When we saw the patient he had 60 degree flexion contracture of the hip joint. The hip was also in 20 degrees of adduction contracture. Obviously, he could hardly put the leg down because with the hip in 60 degrees flexion and 20 degrees adduction, the pelvis has to be raised enormously to get the leg down and walk, and the leg appeared to be very short.

Let us talk about the treatment. What do we do when we diagnose a child with tuberculosis of the hip? I must state that the treatment that was followed in this child was rather unusual for our clinic in the sense that he was operated upon at a rather acute stage of the disease.

A child with acute signs of tuberculosis of the hip joint like this boy had (a great deal of pain,

with an abscess, some temperature elevation, with an x-ray picture indicating a great amount of bone atrophy and bone destruction) is usually not operated upon until his general and local symptoms are improved. The object of the treatment is to obtain bony fusion of the joint, because healing of a tuberculous hip joint with motion is extremely rare. However, surgery is delayed until the acute inflammatory process and the severe local osteoporosis are controlled. This is done by means of plaster cast immobilization for a period of six to twelve months. The general condition of the patient is cared for by ample food intake and fresh air. Streptomycin combined with P.A.S. is given. Under these conditions there is a natural healing of the diseased area. The temperature and the sedimentation rate level down to normal values and the patient gains weight. Then, we feel, is the optimum time for operating. We try to help nature by hastening the natural process of hip fusion which has already started. At the operation, to avoid spread of the disease, the hip joint should not be dislocated. A bone graft above or below the hip is applied and the hip is again immobilized in a plaster hip spica until fusion is completed.

It is difficult to say in this case if the operation precipitated the meningitis. At autopsy no typical lesions of miliary tuberculosis were found. There was apparently no generalized spread of the tuberculosis from the hip joint. However, there is the chronological sequence; the meningitis developed some days after surgery.

I doubt that now with antibiotics, we can be more radical in our surgical indications in bone and joint tuberculosis. Still we shall be conservative and operate only when the general and local symptoms are well under control.

Dr. Layton: In summary, we have a boy four years old who for over two years had had tuberculosis of the hip which was essentially untreated most of the time. A surgical procedure was eventually performed on the hip, and beginning about two weeks after the operative procedure there were signs of dissemination of the tuberculosis from the hip to the meninges. Subsequently death occurred with tuberculous meningitis. We still do not know how the boy got tuberculosis of the hip, and we are not quite certain of the mechanism of spread of the disease from the hip to the meninges.

JOURNAL DEADLINE CHANGE

Beginning with the April issue, the closing date for all copy for the JOURNAL will be the seventh of the month preceding the date of publication. It will be impossible for us to accept material later than this and have it appear in the next issue of the JOURNAL.

The JOURNAL of the
Iowa State Medical Society
ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MRS. MARILYN McLAUGHLIN, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.Van Meter
DANIEL A. GLOMSET, M.D.Des Moines
TOM D. THROCKMORTON, M.D.Des Moines

PUBLICATION COMMITTEE

ROBERT N. LARIMER, M.D., Trustee.....Sioux City
LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M. D., Trustee.....Newton
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9

Vol. XLII MARCH, 1952 No. 3

SOME INFORMATION ABOUT OUR
ANNUAL MEETING

This is the program issue of our *Journal*. Here are listed the names of our speakers and the subjects that will be discussed at the annual meeting in April. The Program Committee has done an excellent piece of work in planning something of interest to all specialties and to the general practitioner.

Once again we return to Des Moines after two years at other locations in the state. The Hotel Fort Des Moines will be general headquarters for the physicians; the Savery for the Auxiliary. Our technical exhibit space will be located on the lobby and mezzanine floors of the Hotel Fort Des Moines; and our scientific exhibits may be found at the Midtown Roller Rink, half a block west of the hotel. Two section meetings will also be held at the Midtown rink. The eye, ear, nose and throat section will meet both afternoons in an attractive paneled room at the rink, while the medical and surgical sections will alternate afternoon meetings there and in the Grand Ball Room at the hotel. The pediatric section will meet at Blank Memorial Hospital; the obstetric section at the Savery Hotel.

The House of Delegates will hold its first session Sunday afternoon at four in the Grand Ball Room. This will recess for dinner and then continue as long as necessary during the evening.

Monday night will be open for special dinners, and it is hoped that there may be some attraction at KRNT Radio Theater for a theater party Monday evening. The banquet will be held Tuesday

night in the Grand Ball Room at Hotel Fort Des Moines.

The last session of the House of Delegates will be called to order at 7:30 a. m. Wednesday morning, and the meeting proper will adjourn at 11:30 that same morning.

The Board of Trustees is planning a special exhibit illustrating the many activities of the Society and it is hoped that some of the television programs may be duplicated on the screen for the benefit of physicians who live too far from Ames to receive the program direct.

Dr. Konzett is striving to make the banquet a noteworthy event. More will be said of it in the April *Journal* but we can promise you it will be different from previous ones and will be enjoyable.

Mark the dates of April 27-30 on your calendar and plan to join the trek to Des Moines for a refresher course in scientific medicine, the stimulation of getting together with old friends, and the relaxation of a change of scene.

IOWA DOCTORS ARE TOO MODEST

In recent years the medical profession hasn't been called modest too many times. It's true that there have been those who have called it other things, but modest was not among them. Nevertheless, it does seem to your officers that we in Iowa are overlooking an opportunity to give credit where credit is due, and that is in an award to some general practitioner.

Last year for the first time several counties nominated one of their members they felt worthy of being selected the outstanding general practitioner of the year. These were presented to the House of Delgates and a committee studied all nominations carefully and long before making its decision. The man so chosen was then nominated for the same award in the American Medical Association, but did not win.

Up to the time of this writing, no nominations for the general practitioner's award for 1952 have been received in the central office. There is no dearth of worthy material; Iowa has many men who merit this recognition. Let's not sit on our hands when we should be applauding; let's nominate those who deserve it.

IMPORTANCE OF BLOOD IN THE
DIGESTIVE TRACT

Noticeable in recent years has been the increase in the number of well persons who submit themselves for physical examination. In addition to those examined for insurance, industrial employment and selective service reasons are those persons who wish to be examined to assure themselves that they are not suffering from cancer or

tuberculosis. This can, in great part, be attributed to the public education programs being carried on by voluntary organizations in the health field such as the American Cancer Society and the National Tuberculosis Association.

This examination for the specific purpose of excluding one disease or another has stimulated interest in certain screening types of examinations of which X-ray examination of the chest and examination of the cellular components of vaginal secretion are examples. In the examination of these "well" people to search for unsuspected chronic progressive disease, the examination of stools is of no less importance.

The facilities exist in every doctor's office and hospital in Iowa to perform relatively simple tests on feces which can give presumptive evidence leading to the diagnosis of most types of digestive tract malignancy or other ulcerative disease.

Of these tests, the examination of the stool for blood has received far less attention than it justifiably deserves. Much has been written about the sensitivity of the various reagents to minute amounts of blood, the degree to which their reaction is influenced by the components of the diet or orally administered medication, and the ease with which the tests are performed. One fact stands out: regardless of which particular test is used or its limitations, any of the standard ones are worth doing as a screening procedure, the evaluation of the results to be made when all the data of the history and physical examination are at hand. Particularly is this true in considering persons who present themselves for examination without a specific complaint but in hope of discovering whether some serious disease may exist in an early stage of development. Much of the effort of the voluntary health organization is expended in an effort to get people into the doctor's office for just this purpose.

A considerable quantity of blood must be lost into the digestive tract before the stools become tarry. This has been variously estimated at from 50 to 200 cc. Blood in as small a quantity as 1 cc. can be detected by chemical tests, however, according to some investigators. Differences of opinion as to the exact minimum quantity exist, but all agree that it is fairly small (less than 5 cc.). Meat in the diet, orally administered iron and other interfering constituents of the feces may alter the results of the test. These can be excluded from consideration for diagnostic purposes, however, as the conditions of the test are made more exact. All of them operate to produce false positives rather than false negatives. This does not detract from the tests' value as a screening procedure.

The reagent introduced by Meyer in 1903 using phenolphthalein is probably more satisfactory than some of the others more commonly used

(guaiac, benzidine, pyramidon, and orthotolidin) when all factors are considered.

The reagent is prepared as follows: To 200 ml. of water in a 500 ml. Erlenmeyer flask add 20 Gm. sodium hydroxide and 1 Gm. phenolphthalein. After these are completely dissolved add 20 Gm. granulated zinc. Boil the contents of the flask (using a reflux condenser to prevent evaporation) until the red color disappears. Cool, and store in brown bottles with a rubber stopper. Any pharmacist can prepare this reagent, and it may be kept for many months if it is kept in a cool, dark place.

To perform the test, put 1 or 2 cc. of the substance to be tested (urine, thin suspension of feces, gastric content) in a test tube. Boil momentarily to destroy other oxidases; cool, and add five drops of the reagent. After mixing, add three drops of three per cent hydrogen peroxide. A pink to red color, developing immediately, indicates blood and the intensity of the color is a rough indication of the amount of blood. The color may disappear after three minutes.

The collection of stool specimens may not be convenient in an office practice. The suggestion of Paul and Hamilton* that the material adhering to the tip of the glove after digital examination of the rectum obviates this inconvenience. It constitutes another reason, although none is needed, for digital examination of the rectum as a routine part of every physical examination.

EASTER SEAL DRIVE

On March 13 the Iowa Society for Crippled Children and Adults enters its annual campaign for financial assistance through the sale of Easter Seals. The campaign continues for one month. Easter Seals are symbols of year around assistance of all the handicapped people in Iowa. The Society depends entirely upon volunteer contributions to carry out its program which is state wide in scope. This assistance does not duplicate services of other agencies and is established to assist any handicapped person no matter what the cause of disability.

That such a program is worthy of support is evidenced by the fact that year after year more people contribute to this work by purchasing Easter Seals—Seals which have become the symbol of help to the handicapped. This year when you receive your Easter Seals, look on them not as Seals, but as the symbol of all the handicapped persons you have known. Then give for those people that they may be helped toward a more normal life.

* Paul, W. D.; and Hamilton, H. E.: Importance of occult blood in the stool. *Am. J. Dig. Dis.*, 15:23-26, 1948.



ELABORATION OF MEDICAL ETHICS BY THE IOWA STATE MEDICAL SOCIETY

Within the last six weeks, the central office has received many requests for information about the correct procedures to be followed when two or more doctors participate in the care of a case. These have been caused by the action of the Bureau of Internal Revenue in disallowing deductions for assistants' fees on many physicians' returns.

The medical profession has been governed since time immemorial by a code of ethics which safeguards the best interests of the public. This code, however, has often been phrased in general terms which have not set out the specific procedures which are approved and may be followed. Here in Iowa all matters pertaining to the code of medical ethics may be referred at any time to the Executive Council; in the American Medical Association they are referred to the Judicial Council.

The Executive Council feels the matter is of sufficient importance to warrant publishing its elaboration or interpretation of medical ethics so that every member may have a specific statement and not have to read between the lines of the published code to determine what the correct procedure is. Following is the elaboration:

The prime objective of the medical profession is to render service to humanity. Reward or financial gain is a subordinate consideration; yet the matters of fees, collections and statements must be covered. The decision as to the ethical or unethical nature of practice must be based upon the ultimate effect for good or ill on the patient as an individual and the public as a whole.

With the increasing development of medical knowledge and the increasing specialization of medical skill, it has become more and more frequently necessary for two or more physicians to participate in the care of the patient.

It is also a known fact that for the welfare of the patient, two or more doctors must be present at surgery in the event of the disability of any one of them during the operation or in an emergency, and this is a requirement in many hospital's rules and regulations.

In many communities in Iowa, it has been common practice for the general practitioner or family physician and/or another physician to participate in the medical and surgical care of the patient, the family or patient in many instances requesting the family physician to be present at surgery and in the care of the patient, and it has been accepted and approved by the community as a community practice conveying definite benefits to the community. The procedure has received community approval as being in the best interest of the patient. It is generally recognized through-

out the State of Iowa in both large and small communities.

The patients and the public have accepted and approved the joint activities of doctors of medicine upon individual cases, in cases involving surgery, or in cases involving diagnosis and treatment only, all to the benefit of the patient.

In many communities there have been joint activities by doctors of medicine and one bill rendered therefor with the consent of the patient.

Physicians and surgeons have, in their activities of rendering joint services to the patient with the patient's consent, collected the fee on one statement and have thereby fulfilled their plain and palpable duty to their fellow men and have had due regard to all of the circumstances of each particular situation and relation.

In many instances, patients have expressed their own desire for one bill, the payment of the bill at one place, and so by custom it has become an accepted practice in many communities.

Public policy is the community common sense and common conscience extended and applied throughout the state to matters of public morals, public health, public safety, public welfare and the like.

Following, therefore, is the elaboration of medical ethics by the Iowa State Medical Society:

1. When two or more doctors, actually and in person, render service to one patient, and the doctors desire to submit one statement to the patient for the services rendered, it should be made clear to the patient or his legal representative that this fee is to be divided equitably among all physicians who have rendered services, and the patient's consent, either express or implied, obtained as to such procedure. This fee may be entirely paid in its entirety to either physician and the one receiving payment shall forward the other his fee.

2. In legal partnerships of doctors, or clinics of doctors, or where doctors have joined together in the practice of medicine, and so hold themselves out to the public and patients, where all income and expenses are a joint account or joint venture, it is ethical and legal for the members of the group to confer and care for a patient and to render one fee bill to the patient, and the income shall be divided in accordance with their contract basis or salary or percentage arrangement.

3. Where two or more doctors render service to a patient, one statement may be submitted to the patient by either doctor itemizing each doctor's charge and the entire bill may be paid to either doctor who in turn will forward the other doctor the amount called for in said statement.

4. Each physician may, if he so desires, render to the patient an individual bill for his individual services, rather than the procedures elaborated in paragraphs 1, 2, and 3.

General Manager's Page

COORDINATION

"To coordinate the various activities of the State Society."

These words occur in the contract of the General Manager, and it is without doubt his most important assignment. An illustration of this is the coordination of the Committee on Health Education and the Speaker's Bureau. The former committee's activities include arranging programs with lay organizations, such as the Farm Bureau, and recommending that local physicians address these meetings. The Speaker's Bureau has a prepared list of physicians, who have accepted the responsibility of taking on these assignments. These two committees, by coordinating their activities, are doing an excellent job. More recently a meeting is being arranged with the Iowa Heart Association and our own Heart Committee, which again will cooperate with the Speaker's Bureau in arranging programs on a co-operative basis.

Coordinating the State Society's activities with a long list of important non-medical groups is illustrated in a recent meeting of the Board of Control with a special committee of the Society to study the administrative problems of our state institutions. This coordination of the Society with lay groups at the top level will, of course, become an important function of the new Committee on Public Relations. The result of this coordinating activity has done much to accelerate the work within the Society and, of course, is doing much toward building better public relations throughout the State.

This office has also become a clearing house for individual ideas of the members, and the requests for information have increased far beyond my expectations. Naturally, I do not know all the answers, but I usually know where to find them, and thus give the members this service in a reasonably short time. You are urged to make use of this service.

There has been a marked increase in the number of special committees which are investigating various problems for the Council. This has a double advantage in that it is giving more members of the Society an opportunity to acquaint themselves with the activities of the Society while it builds up a backlog of valuable information for the Council.

You are urged to take advantage of the facilities of the central office as outlined above. Every individual working in the office is desirous of serving you.

R. S. Bernard, M.D.

General Manager

BLUE CROSS



BLUE SHIELD

The Voluntary Way



Is The American Way

X-RAY BENEFITS

Blue Cross does not provide payment for a hospital admission which is primarily for x-ray, basal metabolism rate, electrocardiogram, or other purely diagnostic services.

However

Blue Shield will allow up to \$15 for x-rays which are taken 30 days prior to or following surgery, fractures, dislocations. These x-ray payments are made in accordance with a Blue Shield x-ray fee schedule. The maximum of \$15 is not allowed in every case.

DIAGNOSTIC X-RAYS ON ACCIDENTAL INJURY

X-rays which are taken to determine the extent of an accidental injury are provided by Blue Shield. The allowances will be made in accordance with the x-ray fee schedule but will not exceed \$15 in any case.

BLUE SHIELD MONTHLY STATISTICS

January 1, 1952

| | |
|----------------------------|--------------|
| Enrollment | 313,097 |
| Number of Claims..... | 5,478 |
| Amount of Claims Paid..... | \$173,055.70 |

SIOUX CITY PLAN CHANGES

The Sioux City Blue Cross Plan which services 26 counties in western Iowa has asked that we call to the attention of the medical profession some of the more recent changes in their Blue Cross benefits. These principal changes are as follows:

Drugs—Pays for all approved drugs and medicines exceeding the first \$15. The first \$15 in drug cost is the patient's responsibility.

Hospital Out-Patient (Emergency Care)—Includes use of operating room and/or emergency room for surgery and accident cases if treated within the ten days of accident's occurrence. All dressings and casts are provided as part of this service and approved drugs above the first \$15. (X-rays and anesthetics are not provided in out-patient cases.)

Maternity Care—Provides ten days each admission. Nursery care for all newborn for first ten days of their lives.

Physiotherapy and Diathermy—Paid in full for in-patient cases.

THESE BENEFITS SHOULD NOT BE CONFUSED WITH THE COVERAGE OFFERED BY THE DES MOINES BLUE CROSS PLAN SINCE THEY ARE NOT THE SAME.

WOMAN'S AUXILIARY to the IOWA STATE MEDICAL SOCIETY

Organized May 9, 1929, Des Moines, Iowa

Twenty-Third Annual Meeting

Des Moines, Iowa, April 28, 29, 30

PROGRAM

MRS. HOWARD W. SMITH, *President*, Presiding

Monday, April 28

Hotel Savery

8:30 a. m.

Registration.

9:00 a. m.

Executive Board Meeting—For board members, county presidents, presidents-elect and past presidents of the State Auxiliary. All doctors' wives are welcome.

12:00 Noon

Luncheon

Speakers—Mrs. Leo J. Schaefer, First Vice-president of the Woman's Auxiliary to the American Medical Association.

Dr. O. D. Wolfe, Chairman of the Council to the Iowa State Medical Society.

General Discussion Period.

Music—Mrs. Nina Renquist

Mrs. Meriam Ryan

2:00—3:00 p. m.

"Workshop"—For County Presidents, Presidents-elect and Councilors. Mrs. George B. Crow, First Vice-president and Organization Chairman of the Woman's Auxiliary to the Iowa State Medical Society, presiding.

4:00 p. m.

Tea—The Auxiliary to the Polk County Medical Society welcomes all doctors' wives.

Des Moines Art Center, Greenwood Park at Grand Ave. and Polk Blvd.

The Des Moines Junior League will conduct a special tour for guests.

8:00 p. m.

Theater Party—KRNT Radio Theatre.

Tuesday, April 29

Hotel Savery

Registration.

9:00 a. m.

Formal opening of the 23rd Annual Meeting of the Woman's Auxiliary to the Iowa State Medical Society. Mrs. Howard W. Smith, President, presiding.

Invocation.

Introductions.

Welcome—Mrs. Robert W. Hoffmann, President, Woman's Auxiliary to the Polk County Medical Society.

Response—Mrs. George B. Crow, First Vice-president of the Woman's Auxiliary to the Iowa State Medical Society.

Panel Discussion—"Help Yourself to Health" Mrs. Keith M. Chapler, Moderator.

1. A Survey of County Health Resources—John D. Conner, M.D., Nevada.

2. The Public Health Nurse Looks at Health—Miss Mae R. Campbell, R.N., Nursing Supervisor, Public Health District 6.

3. Rural Groups' Interest in Health—Mr. Murl Whorlow, Ames.

4. School Health—C. P. Phillips, M.D., Muscatine.

5. Blue Cross-Blue Shield—Mr. Don Taylor, Des Moines.

6. How a City-County Health Unit Can Function—Abraham Gelperin, M.D., Des Moines.

12:00 Noon

Luncheon

Speaker—Dr. E. J. McCormick, Board of Trustees to the American Medical Association.

1:30 p. m.

Fashion Show—Wolf's Apparel.

Music—Mrs. Meriam Ryan

Mrs. Elizabeth Vetter

7:00 p. m.

Hotel Fort Des Moines

Iowa State Medical Society Banquet.

Wednesday, April 30

Hotel Savery

9:00 a. m.

Breakfast—In honor of County Presidents and Councilors. All doctors' wives are welcome.

Business Meeting—Mrs. Howard W. Smith, President, presiding.

Roll Call.

Minutes.

Memorial—Mrs. W. R. Hornaday.

Election of Officers.

Installation of Officers—Mrs. J. A. Downing.

Post Convention Board Meeting.

Adjournment.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. HOWARD W. SMITH, Woodward

President-Elect—MRS. J. DONALD HENNESSY, 205 Frank St., Council Bluffs

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

ANNUAL MEETING

Your Board members and the Polk County Auxiliary have been diligently at work planning an interesting, informative, and challenging program for all doctors' wives at the Annual Meeting April 28-30 at the Savery Hotel in Des Moines.

You will note that social activities are included on the agenda. I feel confident that you will not want to miss any part of the convention.

You will soon receive an official call by letter with full details concerning luncheon reservations, etc. Past experience has shown us that reservations for the luncheons, Style Show and Tea made by each one of you in advance assures you of a place.

"Working Together for Health" has been constantly in our minds as we have developed our program during the year and again we bring to your attention the objectives of our Auxiliary.

1. To extend the aims of the medical profession to all organizations which look to the advancement of health and health education.

2. To cultivate friendly relations and promote mutual understanding among physicians' families.

3. To participate in such work as may be approved by the Iowa State Medical Society.

4. To coordinate and advise concerning the activities of County Auxiliaries.

5. To assist in the entertainment at all conventions of the Iowa State Medical Society.

I am looking forward to meeting all of you in Des Moines.

Mrs. Howard W. Smith, President

ANNUAL MEETING COMMITTEES

PROGRAM

Mrs. Fred Moore
Mrs. Allan B. Phillips
Mrs. Clement A. Sones

TICKETS AND RESERVATIONS

Mrs. Harold J. McCoy, Chairman
Mrs. John C. Parsons, Co-chairman
Mrs. Edward R. Posner, Sr.
Mrs. Arthur E. Merkel
Mrs. James McNamee

REGISTRATION

Mrs. George H. Watters, Chairman
Mrs. Robert P. Mason, Co-chairman
Mrs. Henry G. Decker

LUNCHEONS AND BREAKFAST

Mrs. F. Eberle Thornton, Chairman
Mrs. Chester L. Putnam

MUSIC

Mrs. Julius S. Weingart

HOSPITALITY AND GUESTS

Mrs. Edward J. Drew, Chairman
Mrs. Perry P. Amick
Mrs. Edward R. Posner, Jr.
Mrs. William J. Morrissey
Mrs. Austin E. Schill
Mrs. Philip L. Bettler (Woodbury County)
Mrs. Frederick G. Loomis (Black Hawk County)

DECORATIONS

Mrs. Homer E. Wichern, Chairman
Mrs. Robert B. Stickler, Co-chairman

FASHION SHOW

Mrs. Leo R. Pearlman, Chairman
Mrs. J. Fred Throckmorton, Co-chairman

TEA

Mrs. Rutledge C. Schropp, Chairman
Mrs. Charles W. Latchem, Co-chairman

PUBLICITY

Mrs. Louis Goldberg, Chairman
Mrs. Austin E. Schill, Co-chairman

TRANSPORTATION

Mrs. Cecil C. Jones

REPORT OF MID-WINTER BOARD MEETING

In spite of extremely hazardous weather, 21 members of the Executive Board met January 24

at the Savery Hotel in Des Moines. The meeting was called to order by the State Auxiliary President, Mrs. Howard W. Smith, Woodward. The Treasurer, Mrs. Dwight C. Wirtz, Des Moines, reported a balance on hand of \$1,377.90. She stated that one student nurse had paid back \$225.00 in full; donations of \$30.00 have been received so that another loan is now possible.

Mrs. Carl A. Hanson, Waterloo, Student Nurse Loan Fund Chairman, reported by letter that \$980.00 had been loaned to three girls and a balance of \$287.00 remained. Only one-half of the counties have sent their contributions of 50c per member. Clay County has only eight members but raised \$25.00 by means of a silver tea to which other groups were invited. To make the loan really beneficial, some means should be found to increase the fund. There are a number of other organizations that provide loans to prospective nurses and Mrs. Hanson recommended that a list of these be compiled so that girls who desired loans might be informed of other sources if our funds are low. Future Nurses Clubs are being organized in high schools to promote interest in nursing. Several girls in the same family sometimes take up nursing if one of them has had a loan.

Mrs. William B. Chase, Jr., Des Moines, Finance Chairman, reiterated the fact that the Iowa State Medical Society will pay 6c a mile to and from Board Meetings for delegates or anyone asked to attend. Seventy dollars was allowed for the eight delegates to the National Meeting. The budget, of necessity, must be more or less flexible.

Mrs. Robert W. Hoffman, Des Moines, Annual Meeting Chairman, stated that her committee had been set up and the program planned. The program is found in this issue of the Woman's Auxiliary News. Mrs. Leo J. Schaefer, First Vice President of National Auxiliary, will be a guest and Dr. Edward J. McCormick, Toledo, Ohio, an AMA Trustee, will be a guest speaker.

The importance of *Today's Health* and *The Bulletin* were stressed again as well as the need for keeping informed by reading the *Journal of the American Medical Association* and the *Journal of the Iowa State Medical Society*.

Mrs. Elias B. Howell, Ottumwa, Legislation Chairman, was instructed to use a state letterhead and list names and addresses of interested persons who would like to receive the Whitaker and Baxter releases and also *Capitol Clinic*. Subscriptions to *Today's Health* and *The Bulletin* remain embarrassingly small in proportion to membership. Mrs. Thomas E. Kane, Boone, Public Relations Chairman, has been requested to participate on a panel for the Iowa Heart Association in February. Mrs. Lonnie A. Coffin, Farmington, Councilor, will represent the Iowa Auxiliary at the eighth National Rural Health Conference Febru-

ary 28-29 in Denver, Colo. Mrs. Melvin B. Cunningham, Norwalk, Civil Defense Chairman, reported the names of her committee as follows: Mrs. Carl J. Lohman, Des Moines County; Mrs. Noble W. Irving, Jr., Polk County and Mrs. George A. Paschal, Hamilton County. Because the last Legislature did not make funds available, the Civil Defense Committee for the Iowa State Medical Society has not functioned to date.

A motion was passed that mimeographed annual reports of state officers, committee chairmen and county presidents be prepared and given to every Board member. Names of delegates to the Annual Meeting should be in the hands of the State Secretary prior to April 29.

Mrs. Claire H. Mitchell, Indianola, reported the organization of the Woman's Auxiliary in Page County. Mrs. George B. Crow, Burlington, First Vice President, reported that 35 Iowa counties are organized and 52 counties have one or more members-at-large. Eight per cent of the counties have no members. She recommended that the past presidents of each county serve as advisors to the Councilors. A motion was passed that each county prepare a roster of names of doctors, their wives, or widows and that all additions be mailed to Mrs. Crow for the master list. Information may be obtained from the county medical society president or secretary. The list should be ready for the Annual Meeting and checked with the Treasurer.

Mrs. Lonnie A. Coffin, recommended that all county auxiliaries prepare a history of their respective organizations and that a copy be placed in the Councilor's black book.

Dr. Ben T. Whitaker, Boone, President-elect of the Iowa State Medical Society and Chairman of the Advisory Committee for the Auxiliary, was the luncheon speaker. He emphasized the need for interest in the primary and general elections and the winter legislative session. Auxiliary members were urged to see that doctors voted. A spot check on doctors who voted last year was not encouraging. Iowa is lagging in the rural health program and it is the business of the Iowa State Medical Society and the Auxiliary to assume leadership in this field before other organizations do. Contact of Auxiliary members in local groups can prove quite vital in stimulating the Health Program.

Mrs. Keith M. Chapler

STATE COMMITTEE FOR THE HANDICAPPED REPORT

This committee met November 19, at the Savery Hotel in Des Moines. Those present were Mrs. Joseph W. Lawrence, Dubuque; Mrs. Albert E. Acher, Fort Dodge and Mrs. Herbert C. Merillat, Des Moines.; Mrs. Howard W. Smith, State Auxil-

iary President, and Mr. Hymans, Director of the State Society for Crippled Children and Adults.

One of the biggest projects of the various county auxiliary groups is the sponsoring and promoting of the sales of handwork done by approximately 180 handicapped persons throughout Iowa, and this committee was formed with the idea of coordinating the work at state level and assisting the Society for Crippled Children and Adults in whatever capacity possible.

An exchange of ideas among the committee members proved valuable, and a discussion of the Society, its needs and functions, was a help to all. From this meeting the following conclusions were reached:

1. The people contributing to these sales should be guided as to salable articles; also as to choice of fabric, color, pattern, etc.

2. A way of helping the contributors to finance the purchase of material until such time as the article is sold should be considered.

3. The sales in various parts of the state should be spread far enough apart to insure plenty of merchandise for sale.

4. A general plan of book-keeping and money-handling should be set up to unify the over-all project.

The committee also recommended that, since this present committee is interested primarily in the promotion and sale of these articles, that another committee be established for the purpose of long-range planning regarding the kind of work done by the participants and to stimulate their interest and desire to do better work and to try new kinds of handcraft. This committee should carry a rotating membership so that a steady program will be maintained for several years, and be composed of representatives of the various parts of the state.

Mrs. Herbert C. Merillat

ACTIVITIES OF COUNTY AUXILIARIES

A buffet dinner preceded the January meeting of the Woman's Auxiliary to the Black Hawk Medical Society. The following officers for 1952 were installed: President, Mrs. Frederic G. Loomis; President-elect, Mrs. Russell S. Gerard, II; First Vice-president, Mrs. Rudolph F. Nielsen; Second Vice-president, Mrs. John W. Bickley; Recording Secretary, Mrs. Galen C. Boller; Corresponding Secretary, Mrs. John T. McCoy; Treasurer, Mrs. Maurice M. Wicklund and Historian, Mrs. Mark A. R. Kuhn.

The Butler County Auxiliary holds dinner meetings every other month in conjunction with the doctors. There are eight members. In 1951 they contributed to the Cancer Drive, the Cerebral Palsy School in Des Moines and to the Butler

County Home. They always participate in the *Today's Health* contest.

The Dallas-Guthrie Auxiliary had dinner with the doctors at the Horse and Buggy Inn at Adel on January 31. The Auxiliary enjoyed the doctors' program which was a scientific talk by Dr. Robert L. Jackson, Iowa City, and a film on the heart. Plans were made for a dinner-bridge to be held February 29 at Perry.

The Delaware County Auxiliary met at the Memorial Hospital for a joint dinner with the doctors on January 14, 1952. Mrs. John Tyrell presented a program on the meaning of art to children. Officers elected for 1952 are: President, Mrs. Paul G. Meyer; Vice-President, Mrs. James K. Stepp and Secretary-treasurer, Mrs. John Tyrell.

The Polk County Auxiliary met on January 25 for the annual meeting and election of officers. New officers are: President, Mrs. Robert W. Hoffman; President-elect, Mrs. Noble Irving, Jr.; Vice-president, Mrs. Robert P. Mason; Secretary, Mrs. Perry P. Amick and Treasurer, Mrs. Rutledge C. Schropp.

A Woman's Auxiliary to the Page County Medical Society was organized January 11 at the home of Mrs. Charles H. Flynn in Clarinda.

Luncheon was served at Kern's Tea Room to 19 charter members and two guests. The group met after the luncheon at the Flynn home for the organization meeting.

Mrs. Howard W. Smith, State President of the Woman's Auxiliary, and Mrs. Lloyd K. Shepherd, State Program Chairman, gave inspiring talks on the purpose and program of the Woman's Auxiliary to the Iowa State Medical Society.

The following officers were elected to serve for the coming year: President, Mrs. Harold M. Bunch; President-elect, Mrs. Charles H. Flynn and Secretary-treasurer, Mrs. Robert A. Powell.

STATE AUXILIARY ON AIR AT WOI

The Woman's Auxiliary to the Iowa State Medical Society is sponsoring a radio broadcast through the Iowa Council for Better Education at 9:00 a. m. April 5 on WOI.

The subject will be "Community Health Problems." Mrs. Loyd K. Shepherd, Program Chairman of the Woman's Auxiliary, will be the moderator. Members of the panel include Dr. Abraham Gelperin, Des Moines, Mr. Murl Wharlow, Health Specialist Ames Extension Service and Dr. John D. Conner, Nevada. The script will be furnished by Don Taylor, Field Secretary of the Iowa State Medical Society.

STATE DEPARTMENT OF HEALTH

Walter Biering

INFECTIOUS HEPATITIS

This disease, infectious hepatitis (acute catarrhal jaundice) is basically an inflammatory process of the bile canaliculi and ducts of the liver. As obstruction of the canaliculi or ducts occurs, difficulty of flow of bile follows. Bile pigments then appear in the blood with the resultant jaundice of the conjunctivae and the skin. The upper bowel becomes involved and so causes the symptoms of loss of appetite, nausea and vomiting with frequent stories of diarrhea or constipation and abdominal cramps. Fever and chills, headaches, muscle aches and pains are other common symptoms. Cases may be mild, moderate or severe. One fatal case has been reported from Woodbury County. Cases may be of short duration, that is, of a few days illness, or extend over a period of a couple of months. Recurrences may occur, particularly if the patient resumes work or activity too quickly. The disease is not limited to any age group. Of about 30 cases currently appearing in Cedar County, one-half are adults. Some degree of immunity follows an attack. The incubation period is variable with ranges given from about two weeks to over 50 days.

Infectious hepatitis is a virus disease with portal of entry usually through the digestive tract and occasionally through the upper respiratory tract. The infection leaves the body through the discharges from the intestinal and upper respiratory tracts. Thus infection may be spread indirectly through infected food or water or directly from person to person by way of hand to mouth or droplet infection. By the time several clinical cases have been observed in a community, sources of infection (infected persons) are numerous and the avenues of spread are multiple. The localization of cases in any one community strongly suggests almost all infection is being transmitted from person to person.

Leptospirosis is being reported among cattle in many parts of Iowa. While jaundice is present in this infection and while the disease may infect man, it seemingly has not done so yet. Our human cases of infectious hepatitis are caused by an entirely different organism, a virus.

Iowa's current outbreaks have been reported from Cedar, Scott, Clinton, Muscatine, Des Moines, Page, Polk, Tama, Woodbury and Monona coun-

ties. Des Moines county has reported 64 cases since December 1. Other states, including Ohio, Indiana, Illinois and Missouri are also reporting outbreaks of the disease.

| Iowa Cases by County | | Iowa Cases by County | |
|----------------------|----|----------------------|-----|
| 1951 | | 1952 | |
| Calhoun | 2 | Cedar | 35 |
| Des Moines | 30 | Clinton | 7 |
| Kossuth | 2 | Des Moines | 34 |
| Page | 8 | Monona | 10 |
| Polk | 2 | Muscatine | 57 |
| Washington | 12 | Page | 3 |
| Woodbury | 10 | Scott | 1 |
| Total | 66 | Tama | 1 |
| | | Warren | 1 |
| | | Woodbury | 20 |
| | | Total | 169 |

These cases have occurred in Iowa after an interval of five years without reports of the disease. Previous reports summarized from 1931 are as follows:

| Year | City or Town | County | Number of Cases |
|----------|-----------------------|------------|-----------------|
| 1931 | Rural school district | Des Moines | Few |
| 1938 | Everly | Clay | 70 |
| 1939 | Clarksville | Butler | 31 |
| 1942 | Zearing | Story | 4 |
| 1944-'45 | Tama-Toledo | Tama | Several hundred |
| 1945 | Hedrick | Keokuk | 4 |
| 1945 | Oskaloosa | Mahaska | Few |
| 1945 | | Clinton | Undetermined |
| 1944-'45 | Manning & vicinity | Carroll | Over 100 |

Control must be through rigid personal hygiene and community sanitation. A few of the basic control procedures are clean water, clean milk, clean school lunch rooms, clean hands, properly constructed drinking fountains. (It is also a good time to remember that if saliva were purple most of the objects about many of us would be polkadotted.) As an additional control procedure, gamma globulin may be used as in measles control. For prophylaxis of exposed persons we are recommending about 0.03 to 0.04 cc. Gamma Globulin per pound of body weight. This is the mid-range of dosage found effective according to the recent report, "Review of Current Trends in Active and Passive Immunization," by Dr. A. C. McGuinness, which appeared in the January 26, 1952 issue of the *Journal of the American Medical Association*.

(Continued on page 132)

Iowa Academy of General Practice

President—Cecil V. Hamilton, M.D., 145 E. 4th St., Garner

President-Elect—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

Vice President—Ivan T. Schultz, M.D., 106 N. Taft St., Humbolt

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

EDUCATION OF GENERAL PRACTITIONERS

At last the medical profession is reawakening to the fact that the foundation stone of all medical practice is the general practitioner. Medical colleges have taught all branches of the medical sciences but somewhere, somehow, the true function of their teaching was overshadowed by the tremendous pressure, both applied and implied, for the student to go into some specialty. Many factors have contributed to this deflection from general practice, notably the tremendous advances in medical science in the last 50 years, which creates an illusion of such a vast sum of knowledge that the prospective general practitioner becomes frightened, the still increasing complexities of social and economic living, the unfortunate influence of military ratings, the great demand for medical education which forces colleges to choose only those applicants with the better scholastic records, the high cost of medical school operation which naturally makes it inadvisable financially to try to educate a group of students in which the mortality rate might be too high, etc. Many of these factors, at present, look like insurmountable obstacles, but with characteristic American initiative and mental genius it is safe to say they will be overcome.

The need for more general practitioners is accepted, so something must be done. Social conditions are changing and we must change with them. First we must look to the medical colleges. Since the general practitioners are more likely to come from the larger middle portion of the student group scholastically, perhaps some colleges may develop the courage to screen a larger number of B-rating and C-rating applicants for admission. These men will not likely do the research work, as might be expected of the A-rating students, and, of course, some will still enter specialty fields, but the majority of these men will make good family doctors. A bona fide general practice department might show the student the earnest and sincere desire of the teaching institution to feature this phase of practice. This department would be invaluable in out-patient clinics and

admissions capacities and could take part in the various departments to emphasize the work a general practitioner should do and what he should not do. Ward rounds would not need to be limited to a single service, but might follow, anywhere in the hospital, the cases that would make good teaching material which had come through out-patient and admitting services. The work of the specialists could then be observed through the general practitioner's eyes. This would occasion little disruption or reorganization in any standard teaching hospital. Iowa is now making arrangements for a preceptorship program. Texas, Michigan, Wisconsin, Oklahoma, and Kansas are either engaged in or starting preceptor plans. In Texas, the Academy of General Practice is setting up a program to begin in July of this year which closely parallels the one in Iowa. These preceptorships are an important step in a general practitioner's training. He sees cases that he is expected to handle, but it is more important that he learn the art of practicing medicine and the financial aspects involved in taking care of sick people on all economic levels. He also observes the work required to engage in general practice and the social life of his preceptor. Rotating internships could include a service along these lines, in a hospital connected with a medical school, with perhaps some instruction in handling emergency and minor surgical procedures such as the intern might be required to know if he were practicing in a suburban community. The large majority of general internships in other hospitals without out-patient services might need to revamp their schedules to conform somewhat to the plan used by medical schools. Admitting services might be set up with opportunities for the house staffs to observe the cases being brought into the hospital, and emergency calls throughout the hospital could be assigned to these men under direction of specialty residents. General practice residents might continue work in fields for which they feel a special need. However, it would be well if they took counsel in their selections from the general practice staff.

Education in general is facing need for reorganization. Why not in medicine?

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

AMERICAN MEDICAL ASSOCIATION STANDARD NOMENCLATURE OF DISEASES AND OPERATIONS, Fourth Edition, by *Richard J. Plunkett, M.D.*, Editor, and *Adaline C. Hayden, R.R.L.*, Associate Editor. The Blakiston Co., Philadelphia, 1952. Price \$8.00.

CALLANDER'S SURGICAL ANATOMY, by *Barry J. Anson, M.A., Ph.D. (Med. Sc.)*, Professor of Anatomy, Northwestern University Medical School; and *Walter G. Maddock, M.S., M.D., F.A.C.S.*, Elcock Professor of Surgery, Northwestern University Medical School. Third Edition. W. B. Saunders Co., Philadelphia, 1952. Price \$14.00.

DYNAMIC PSYCHIATRY, BASIC PRINCIPLES. Volume I, by *Louis S. London, M.D.* Corinthian Publications, Inc., New York, 1952. Price \$2.00.

INTRODUCTION TO MEDICAL SCIENCE, by *Julius Jensen, Ph.D. (In Medicine)*, University of Minnesota, M.R.C.S., (England) L.R.C.P. (London), Formerly Assistant Professor in Clinical Medicine, Washington University; Medical Service, St. Luke's Hospital, Staff Member, St. Louis City (Starkloff Memorial) Hospital and St. Louis County Hospital; and *Henry W. Noller, M.D.*, Associate, St. Luke's Hospital; physician, St. Luke's Hospital School of Nursing, St. Louis. C. V. Mosby Co., St. Louis, 1952. Price \$5.75.

A SEX GUIDE TO HAPPY MARRIAGE, by *Edward F. Griffith*, Member of the Royal College of Surgeons, Licentiate of the Royal College of Physicians. Introduction by *Robert L. Dickinson, M.D.* Emerson Books, Inc., New York, 1952. Price \$3.00.

A TEXTBOOK OF CLINICAL NEUROLOGY with an Introduction to the History of Neurology, by *Isreal S. Wechsler, M.D.*, Clinical Professor of Neurology, Columbia University, New York, Consulting Neurologist, the Mount Sinai Hospital, Montefiore Hospital and Rockland State Hospital, New York. Seventh Edition. W. B. Saunders Co., Philadelphia, 1952. Price \$9.50.

BOOK REVIEWS

ANTIBIOTIC THERAPY, by *Henry Welch, Ph.D.*, and *Chester S. Keefer, M.D.* (The Arundel Press, Inc., Washington, D. C., \$10.00).

This volume fills a definite need as a reference book for physicians by supplying complete information about the nature and use of each of the antibiotics. It gives interesting biographies of the discoverers of each drug, information about antimicrobial activity, pharmacology and dosage forms, and finally in the second part of the book the choice of antibiotics in the various clinical infections.

Using this volume as a guide, every physician can improve his efficiency in treating infections by utilizing the antibiotic proven most efficient for a specific infection rather than using one poorly chosen drug or several in combination to cover one's ignorance.—*E. R. Posner, Jr., M.D.*

THE 1951 YEAR BOOK OF MEDICINE (May, 1950-May, 1951), edited by *Paul B. Beeson, M.D.*, *J. Burns Amberson, M.D.*, *William B. Castle, M.D.*, *Tinsley R. Harrison, M.D.*, and *George B. Eusterman, M.D.* (The Year Book Publishers, Inc., Chicago, \$5.00).

As with previous annual volumes, this book presents, in a summary fashion, the more important articles on medical subjects published during the previous year.

The able editors have abstracted selected articles published in the leading medical journals in the

categories of Infections, Chest Diseases, Blood and Blood Forming Organs, the Heart Blood Vessels and the Kidney and the Digestive System. Many of these abstracts are followed by interesting comments and some controversial opinions of the editors with reference to related publications on the subject.

These 696 pages offer an excellent opportunity for one to review the important contributions on medical subjects presented between May, 1950 and May, 1951.—*M. J. Rotkow, M.D.*

CLINICAL ALLERGY, by *Samuel J. Taub, M.D.* (Paul B. Hoeber, Inc., New York, \$4.50).

This is the second edition of the book which was first published in 1945. This edition, noteworthy for its brevity and conciseness, presents a bird's eye view of the various allergic concepts, both in the field of therapy and practical aspects. It is brought up to date with brief but pointed material referable to the advances made in the field of allergy in the past six years.

The use of the various anti-histamine drugs, of ACTH and cortisone is described. The treatment of status asthaticus is outlined lucidly and concisely.

At the end of the volume the author has a chapter devoted to the preparation of allergy extracts and an appendix tabulating the various hay fever plants and their locations in the United States; also a list of the common inhalents, ingestants and contact allergins and their sources and ingredients of some common foods.

This book, because of its compactness, would be useful to the general practitioner or medical student. It is not recommended as a text for the individual who devotes much of his time to the practice of allergy or who is interested in allergy.—*N. J. Noun, M.D.*

THE 1951 YEARBOOK OF OBSTETRICS AND GYNECOLOGY (August, 1950-June, 1951), edited by *J. P. Greenhill, M.D.* (The Year Book Publishers, Inc., Chicago, \$5.00).

In keeping with the usual Year Book style, this volume consists for the most part of reviews of important clinical and experimental articles in the field of obstetrics and gynecology published during 1951. In the section on obstetrics, Greenhill brings in the newer concepts of treatment of toxemia of pregnancy with cortisone; the rural use of office deliveries; cord stripping and pointers on precautions in air travel during pregnancy.

With regard to gynecology the author has brought us up to date to sterility problems, cortisone in gynecology, the new trichomonacides, the proper treatment of ovarian cysts, with emphasis on "unjustified surgery" and many other problems.

The broad selection of articles and the liberal annotations by the editor should prove stimulating to the general practitioner as well as to the specialist who wants to keep up to date in the field of obstetrics and gynecology.—*A. E. Schill, M.D.*

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The Black Hawk County Medical Society met January 15 at the Elks Club in Waterloo. Dr. Huberta Livingstone, Chicago, spoke on "Anesthesia in the Aged." Dr. William E. Adams, also of Chicago, spoke on "Indeterminate Lesions of the Lung."

Boone

Dr. Ross E. Gunn, Boone, was named President of the Boone County Medical Society at the Society's annual meeting January 22 at the Hotel Holst in Boone. Other new officers elected are: Vice President, Dr. Wallace H. Longworth and Secretary-treasurer, Dr. Henry C. Scharnweber, both of Boone.

Calhoun

Members of the Calhoun County Medical Society met January 17 in Lake City. Dr. Paul Ferguson, Lake City, reported to the group on a recent post graduate course in Pediatrics given at the University of Minnesota in Minneapolis.

Cerro Gordo

The Cerro Gordo County Medical Society has announced that it is sponsoring an essay contest for junior and senior high school students from Cerro Gordo county. The subject is "Why the Private Practice of Medicine Furnishes This Country With the Finest Medical Care."

Clinton

The Clinton County Medical Society with the State Department of Health sponsored two meetings on January 15 and 16 in Clinton. Dr. John H. Randall, Iowa City and Dr. Charles L. Burr, Des Moines, discussed "Maternal and Child Health." A demonstration of nursery technics was held during the second meeting. Dr. Madeline M. Donnelly, Director of the Division of the Maternal and Child Health of the State Department of Health, presided.

Dallas-Guthrie

A meeting of the Dallas-Guthrie County Med-

ical Society was held January 31 at the Horse n' Buggy Inn in Adel. Dr. Robert L. Jackson, Professor of Pediatrics at the SUI College of Medicine, spoke on "Recent Advances in Pediatrics."

Dubuque

The Dubuque County Medical Society met January 8 at the Elks Club in Dubuque. A new minimum fee schedule was tentatively adopted and an immunization program, designed to result in the immunization of all school children was further developed.

Harrison

Dr. Hans Hansen, Logan, has been elected President of the Harrison County Medical Society for 1952. Other new officers include: Vice President, Dr. Robert G. Wilson, Missouri Valley and Secretary-treasurer, Dr. Bernard E. Kenney, Woodbine.

Jackson

Dr. John A. Broman, Maquoketa, was re-elected President of the Jackson County Medical Society at a meeting held at the Jackson County Public Hospital January 7. Also re-elected were Vice-President, Dr. Earl V. Andrew, Maquoketa and Secretary-treasurer, Dr. Warren C. Zabloudil, Preston.

Johnson

Dr. John W. Dulin was installed as President of the Johnson County Medical Society following a dinner January 9 at the Jefferson Hotel in Iowa City. Dr. Harold F. Smith was installed as Vice President and Dr. Eugene J. Boyd was installed as Secretary-treasurer. Mr. Frederick W. Kent, Manager of the SUI photographic service, spoke on "Photographing Medical Subjects."

Mahaska

The Mahaska County Medical Society met January 23 at the Mahaska Hospital for dinner and a business meeting. The following officers were elected to serve during 1952: President, Dr. Robert M. Collison; Vice President, Dr. Kenneth M. Lemon; Secretary, Dr. George Atkinson and Treasurer, Dr. Edgar B. Wilcox, all of Oskaloosa.

Monroe

Dr. George A. Jenkins, Albia, was elected President of the Monroe County Medical Society for 1952. Other new officers include: Vice President, Dr. Robert A. Smith and Secretary-treasurer, Dr. Harold J. Richter, both of Albia.

Muscatine

Dr. William E. Catalona, Muscatine, was elected President of the Muscatine County Medical Society January 21 at the Society's annual meeting at the Park Lane Golf and Country Club in Muscatine. Dr. Robert F. Klein was chosen Vice President and Dr. V. W. Swayze was chosen Secretary-treasurer, both of Muscatine.

O'Brien

Dr. Lester M. Dyke, Sheldon, was elected President of the O'Brien County Medical Society January 29 at the County Court House in Primghar. Dr. Albert D. Blenderman, Jr., Paullina, was elected Vice President and Dr. Walter S. Balkema, Sheldon, was re-elected Secretary-treasurer.

Polk

The regular meeting of the Polk County Medical Society was held February 20 at the Hotel Savery in Des Moines. Dr. Michael L. Mason, Chicago, spoke on the subject, "The Care of Burns."

Woodbury

Dr. D. Arnold Dowell, Omaha, Nebr., addressed members of the Woodbury County Medical Society at the group's regular meeting January 16 at the Mayfair Hotel in Sioux City. Dr. Dowell discussed "X-Ray Interpretation of Acute Abdominal Conditions."

PERSONALS

Dr. Cecil G. Baker, formerly on the faculty of the St. Louis University School of Medicine and also engaged in private practice in St. Louis, has begun his duties as chief of the neuro-psychiatric services at the Iowa City Veterans Hospital. Dr. Baker was graduated from the St. Louis University School of Medicine in 1938 and served his internship at the City Hospital, St. Louis.

Dr. Robert W. Brindley, formerly of Perry, has begun the practice of medicine in Des Moines. Dr. Brindley was graduated from the SUI College of Medicine.

Dr. Thomas D. Clark, Victor physician for more than 20 years, has received an appointment to the clinical staff of the Veterans Hospital at Knoxville.

Dr. Francis D. Donahue, formerly of Sac City, has begun the practice of medicine in Omaha, Nebr.

Dr. Ralph E. Dyson, formerly of Minot, N. D., has become associated with his brother, **Dr. James E. Dyson** in the practice of pediatrics in Des Moines. Dr. Ralph Dyson was graduated from the SUI College of Medicine in 1932 and interned at the University of Minnesota Medical School.

Dr. John E. Evans, formerly of Wayne, Mich., has become associated with **Drs. Carl B. Hickenlooper** and **Paul F. Chesnut** in Winterset. A graduate of Northwestern University College of Medicine, Dr. Evans recently completed his internship at the Wayne County Hospital, Wayne, Mich.

Five of the professional staff of Iowa City's new Veterans Hospital will come from the SUI College of Medicine. They include: **Drs. Edgar S. Brintnall, Robert C. Hickey, Walter M. Kirkendall, Richard E. Eckhardt** and **William K. Hamilton**.

Dr. Phillip C. Jeans, head of the Pediatrics Department at the SUI College of Medicine since 1924, has announced that he will retire June 30. **Dr. Charles D. May** of the University of Minnesota has been named to replace him.

Dr. Nelle S. Noble, Des Moines physician who retired in 1949, has been named Des Moines' "Woman of the Year" by the women's department of the Chamber of Commerce for her "outstanding service to the community."

Dr. George H. Pester, formerly chief of surgery at Offutt Air Base Hospital, has joined **Dr. Edwin M. Limbert** in the practice of surgery in Council Bluffs. Dr. Pester was graduated from the University of Nebraska College of Medicine in 1944 and his residency training in surgery was taken at the University Hospital, Omaha.

Dr. Frank Reinsch, Ashton physician, is retiring from active medical practice.

MARRIAGE ANNOUNCEMENTS

Miss **Jessie M. Morris**, Iowa City, daughter of Mr. and Mrs. J. C. Morris, Rockwell City,

and **Dr. Gilbert Kinyon**, son of Mrs. Lena Kinyon, Iowa City were married January 16 in Iowa City.

Miss Joan Graff, daughter of Mr. and Mrs. C. N. Graff, Onawa and **Dr. William L. Samson**, son of Mrs. A. L. Samson were married December 29 in Onawa.

Miss Shirley R. Wolfson, daughter of Mr. and Mrs. Robert R. Wolfson, Des Moines and **Dr. Marvin H. Dubansky**, Iowa City, son of Mr. and Mrs. I. Dubansky, Des Moines were married February 3 in Des Moines.

DEATH NOTICES

Dr. Fred J. Jarvis, 77, Oskaloosa physician since 1907, died at Mercy Hospital in Iowa City January 24 as a result of injuries received in an automobile accident on January 20. Born at Rose Hill, Dr. Jarvis was graduated from the State University of Iowa College of Medicine in 1901. He was a life member of the Mahaska County and Iowa State Medical Societies at the time of his death.

Dr. Edward Francis LaForce, 78, Burlington eye, ear, nose and throat specialist, died January 22 following a heart attack. Dr. LaForce was graduated from the Rush Medical College, Chicago, in 1900. At the time of his death he was a life member of the Des Moines County and Iowa State Medical Societies.

Dr. David N. Loose, 96, for nearly 45 years a physician and surgeon in Jackson county, died January 30 in an Orlando, Fla. sanitarium, where he had been residing the past year. Dr. Loose was graduated from the University of Pennsylvania Medical School in 1877. He was a life member of the Jackson County and Iowa State Medical Societies.

Dr. William Van Zanten, 68, Brighton physician, died February 2 at his home in Brighton. Dr. Van Zanten was graduated from the State University of Iowa in 1911 and did post graduate work in Chicago. He was a former member of the Washington County and Iowa State Medical Societies.

Dr. George W. Wilkinson, 35, resident doctor in anesthesiology at the University Hospitals, Iowa City, died January 9 after a short illness. Dr. Wilkinson was graduated from the State University of Iowa College of Medicine in 1941. He

was a member of the Johnson County and Iowa State Medical Societies at the time of his death.

ROSTER OF IOWA PHYSICIANS
IN MILITARY SERVICE

As of February 15, 1952

- Ackerman, J. H., Clarksville
(Melbourne, Fla.)Asst. Surg., U.S.P.H.S.
Alberts, M. E., Des Moines
(Des Moines)Lt., U.S.N.R.
Ashby, J. D., Davenport
(Battle Creek, Mich.)Major, A.U.S.
Bartholomew, R. D., Lake City
(Oakland, Calif.)Lt. (j.g.), U.S.N.R.
Bartley, R. L., Sully
(FPO San Francisco, Calif.)Lt., U.S.N.R.
Benge, D. K., Dows
(Ft. Leonard Wood, Mo.)1st Lt., U.S.A.
Braatelian, N. T., Des Moines
(Camp Carson, Colo.)1st Lt., U.S.A.F.
Brown, R. C., Mason City
(Kansas City, Kan.)1st Lt., A.U.S.
Camp, J. R., Thompson
(San Diego, Calif.)Lt. (j.g.), U.S.N.R.
Carroll, T. J., Sibley
(APO San Francisco, Calif.)1st Lt., U.S.A.F.
Carson, R. W., Winterset
(APO San Francisco, Calif.)1st Lt., A.U.S.
Coyne, K. M., Burlington
(FPO San Francisco, Calif.)Cmdr., U.S.N.R.
Dalager, R. D., Ottumwa
(Annapolis, Md.)U.S.N.R.
Davidson, M. C.
(APO New York, N. Y.)Lt. Col., A.U.S.
Davis, S. K., Des Moines
(Seattle, Wash.)
Donahue, J. F., Fort Dodge
(San Antonio, Texas)U.S.A.F.
Fitch, R. E., Des Moines
(Bangor, Me.)1st Lt., U.S.A.F.
From, Paul, West Des Moines
(San Antonio, Texas)1st Lt., U.S.A.F.
Gladstone, W. S., Jr., Iowa City
(Crestview, Fla.)U.S.A.F.
Goenne, W. C., Jr., Davenport
(Tacoma, Wash.)Major, A.U.S.
Greco, D. J., Des Moines
(APO San Francisco, Calif.)1st Lt., A.U.S.
Gustafson, J. E., Des Moines
(Camp Roberts, Calif.)1st Lt., A.U.S.
Jensen, K. V., Newton
(San Antonio, Texas)1st Lt., U.S.A.F.
Johnson, A. A., Jr., Council Bluffs
(Fort Worth, Texas)1st Lt., U.S.A.F.
Johnson, F. N., Madrid
(San Antonio, Texas)1st Lt., U.S.A.F.
Johnson, M. H., Iowa City
(Tacoma, Wash.)Capt., A.U.S.
Keil, P. G., Des Moines
(Bangor, Me.)Major, U.S.A.F.
King, R. E., Des Moines
(APO San Francisco, Calif.)Capt. A.U.S.
Krause, R. E., Ottumwa
(Camp Atterbury, Ind.)1st Lt., A.U.S.
Kruse, R. H., Conrad
(Pearl Harbor, T. H.)Lt., U.S.N.R.
Kurth, R. J., Waterloo
(Panama City, Fla.)Capt., U.S.A.F.
Landis, S. N., Des Moines
(Topeka, Kan.)Major, U.S.A.F.
Leiter, E. R. K., Des Moines
(Bangor, Me.)Capt., U.S.A.F.

McCrary, W. A., Lake City
 (APO San Francisco, Calif.)Capt., A.U.S.
 Mangan, J. T., Forest City
 (San Diego, Calif.)Lt. (j.g.), U.S.N.R.
 Merkel, B. M., Des Moines
 (Bangor, Me.)Col., U.S.A.F.
 Mitchell, R. C., Iowa City
 (Yorktown, Va.)Lt., U.S.N.R.
 Montgomery, A. E., Jefferson
 (APO San Francisco, Calif.)Lt. Col., A.U.S.
 Mulder, L., Sioux Center
 (Sioux Falls, S. D.)Capt., U.S.A.F.
 Neagle, P. E., Dubuque
 (APO San Francisco, Calif.)1st Lt., A.U.S.
 Nicholson, R. W., Paton
 (APO Seattle, Wash.)1st. Lt., A.U.S.
 Nordin, C. A., Des Moines
 (Lackland Field, Texas)1st. Lt., U.S.A.F.
 Odell, J. E., Iowa City
 (Seattle, Wash.)Lt., U.S.N.
 Piburn, M. F., Preston.....1st. Lt., A.U.S.
 Ruble, R. L., Nevada
 (Camp Chaffee, Ark.)A.U.S.
 Schultz, M. H., Waterloo
 (Weaver, S.D.)Capt., U.S.A.F.
 Shaffer, F. J., Iowa City.....Col., U.S.A.F.
 Simonsen, M. N., Sioux City
 (Oakland, Calif.)Lt. Cmdr., U.S.N.R.
 Smith, C. B., Iowa City
 (Fort Jackson, S. C.)Capt., A.U.S.
 Stutsman, R. E., Washington
 (San Diego, Calif.)Cmdr., U.S.N.
 Tempel, P. F., Steamboat Rock
 (APO San Francisco, Calif.)Capt., A.U.S.
 Thistlewaite, E. A., Des Moines
 (Riverside, Calif.)1st. Lt., U.S.A.F.
 Thomas, J. H., Sibley
 (Austin, TexasU.S.A.F.
 Tice, W. K., Iowa City
 (Kansas City, Kan.).....1st Lt., A.U.S.
 Tyler, D. E., Shenandoah
 (Great Lakes, Ill.)U.S.N.R.
 Vincent, J. F., Fort Dodge
 (Langley A.F.B., Va.)Capt., U.S.A.F.
 von Lackum, L. S., Oelwein
 (FPO San Francisco, Calif.)Lt., U.S.N.R.
 Waldmann, E. B., Council Bluffs
 (Santa Ana, Calif.)Lt., U.S.N.R.
 Walz, D. V., Le Mars
 (Weaver, S. D.)1st. Lt., U.S.A.F.
 Wehrmacher, W. H., Iowa City
 (Oceanside, Calif.)U.S.N.R.
 Wheeler, R. A., Des Moines
 (Camp Crowder, Mo.)1st. Lt., A.U.S.
 Wiedemeier, J. L., Sioux City
 (Ft. Sam Houston, Texas)Lt., A.U.S.
 *Wilkins, D. S., Iowa City
 (APO San Francisco, Calif.)Capt., A.U.S.
 Woolfolk, J. H., II, Waterloo
 (Weaver, S. D.)U.S.A.F.
 Zeilenga, R. H., Orange City
 (Kansas City, Kan.)1st. Lt., U.S.A.F.

TELEVISION SCHEDULE

WOI-TV at 9:30 p.m.

March 12.....Crippled Children
 March 26.....Headache

STATE DEPARTMENT OF HEALTH

(Continued from page 126)

MORBIDITY REPORT

| Disease | Jan. 1952 | Jan. 1951 | Dec. 1951 | Most Cases Reported From These Counties: |
|---------------------|-----------|-----------|-----------|---|
| Diphtheria | 8 | 2 | 2 | Black Hawk |
| Typhoid Fever | 2 | 2 | 1 | Harrison, Muscatine |
| Scarlet Fever | 45 | 44 | 40 | Polk, Story |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 132 | 20 | 93 | Pottawattamie, Woodbury, Wright |
| Whooping Cough .. | 5 | 18 | 26 | Des Moines, Pocahontas, Polk |
| Brucellosis | 19 | 24 | 34 | Scattered, 1 case to a county |
| Chickenpox | 374 | 287 | 290 | Clinton, Ida, Linn |
| Influenza | 0 | 0 | 6 | ..... |
| Meningitis men. ... | 3 | 3 | 6 | Jasper, Polk |
| Mumps | 184 | 256 | 184 | Black Hawk, Clinton, Des Moines, Woodbury |
| Pneumonia | 8 | 13 | 8 | Boone 2, Polk 4, Black Hawk, Marion, 1 each |
| Poliomyelitis | 2 | 6 | 9 | Buena Vista, Dubuque |
| Rabies in Animals . | 16 | 50 | 22 | Benton, Hancock, Ida (2 each), others scattered 1 to a county |
| Tuberculosis | 36 | 51 | 50 | For the state |
| Gonorrhea | 25 | 70 | 55 | For the state |
| Syphilis | 151 | 126 | 157 | For the state |

SECTIONAL MEETING OF AMERICAN COLLEGE OF SURGEONS

A three-day sectional meeting of the American College of Surgeons will be held March 24 through 26 at the Radisson Hotel in Minneapolis, Minn. The program will include scientific sessions, teaching clinics and demonstrations in Minneapolis hospitals, new surgical motion pictures and the presentation of scientific papers by distinguished speakers. Hotel accommodations may be obtained by writing to Mr. Neil Wilsey, Front Office Manager in Charge of Reservations, the Radisson Hotel, Minneapolis 2, Minn.

SPEAKER'S BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a.m.

THE DOCTOR'S REPORT

March 6—Arteriosclerosis
 March 13—Treatment of Essential Hypertension
 March 20—The Syracuse Hearing Center
 March 27—Medical Aspects of Atomic Energy

WSUI—Tuesdays at 11:45 a.m.

GOLD MEDAL DOCTORS

March 4—James Ewing
 March 11—Ludwig Hektoen
 March 18—Elliot P. Joslin
 March 25—George Dock

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1951-1952

President.....Donald C. Conzett, Dubuque
President-Elect.....Ben T. Whitaker, Boone
First Vice President.....Martin I. Olsen, Des Moines
Second Vice President.....Charles L. Jones, Gilmore City
Secretary.....Allan B. Phillips, Des Moines
Treasurer.....N. Boyd Anderson, Des Moines

COUNCILORS

Term
Expires

First District—Cluley C. Hall, Maynard.....1952
Second District—Charles H. Cretzmeyer, Algona.....1953
Third District—Matthew T. Morton, Estherville.....1954
Fourth District—Wendell L. Downing, Le Mars
Chairman1953
Fifth District—Ernest M. Kersten, Fort Dodge.....1954
Sixth District—Otis D. Wolfe, Marshalltown.....1952
Seventh District—Harold A. Housholder, Winthrop.....1953
Eighth District—Clyde A. Boice, Washington.....1954
Ninth District—Elias B. Howell, Ottumwa.....1953
Tenth District—Ivan K. Sayre, St. Charles, Secretary..1954
Eleventh District—Oscar Alden, Red Oak.....1952

TRUSTEES

Robert N. Larimer, Sioux City, Chairman.....1952
Lonnie A. Coffin, Farmington.....1953
John W. Billingsley, Newton.....1954

DELEGATES TO A. M. A.

Term
Expires

George Braunlich, Davenport.....January 1, 1953
Julian E. McFarland, Ames.....January 1, 1953
Gerald Caughlan, Council Bluffs.....January 1, 1954

ALTERNATE DELEGATES TO A. M. A.

Frank G. Ober, Burlington.....January 1, 1953
Ernest M. Kersten, Fort Dodge.....January 1, 1953
Donovan F. Ward, Dubuque.....January 1, 1954

EXECUTIVE COUNCIL

Donald C. Conzett, Chairman.....Dubuque
Ben T. Whitaker.....Boone
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines
Robert N. Larimer.....Sioux City
Lonnie A. Coffin.....Farmington
John W. Billingsley.....Newton
Cluley C. Hall.....Maynard
Charles H. Cretzmeyer.....Algona
Matthew T. Morton.....Estherville
Wendell L. Downing.....Le Mars
Ernest M. Kersten.....Fort Dodge
Otis D. Wolfe.....Marshalltown
Harold A. Housholder.....Winthrop
Clyde A. Boice.....Washington
Elias B. Howell.....Ottumwa
Ivan K. Sayre.....St. Charles
Oscar Alden.....Red Oak
George Braunlich.....Davenport
Gerald V. Caughlan.....Council Bluffs
Julian E. McFarland.....Ames

THE JOURNAL

Everett M. George, Editor.....Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

Donald C. Conzett, Chairman.....Dubuque
Ben T. Whitaker.....Boone
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City
Henry C. Scharnweber.....Boone
Joseph T. Priestley.....Des Moines

GRIEVANCE COMMITTEE

Leo C. Kuhn.....Decorah
Leslie W. Swanson, Secretary.....Mason City
Thomas L. Ward.....Arnolds Park
John W. Bushnell.....Sioux City
Joseph B. Priestley.....Des Moines
S. Dale Porter, Chairman.....Grinnell
Robert L. Knipfer.....Jesup
Harry B. Weinberg, Vice Chairman.....Davenport
Elmer A. Larsen.....Centerville
Lester E. Hooper.....Indianola
Charles H. Flynn.....Clarinda

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines
John W. Billingsley.....Newton
John D. Conner.....Nevada
Donald C. Conzett.....Dubuque
Allan B. Phillips.....Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

F. Harold Entz, Chairman.....Waterloo
Lee F. Hill.....Des Moines
John H. Randall.....Iowa City

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines.....1953
Loren K. Meredith, Des Moines.....1952
Eugene F. Van Epps, Iowa City.....1954

COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman.....Des Moines
Martin I. Olsen.....Des Moines
Otto N. Glesne.....Fort Dodge
James E. Reeder.....Sioux City
Callistus H. Stark.....Cedar Rapids
Frank D. McCarthy.....Sioux City
Joe G. Fellows.....Ames
Roy C. Gutch.....Chariton
Tom D. Throckmorton.....Des Moines

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport
Willis M. Fowler.....Iowa City
Emory D. Warner.....Iowa City

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmond F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Des Moines
J. Donald Hennessy.....Council Bluffs

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Cecil V. Hamilton, Chairman.....Garner
J. Stewart Jackson.....Mt. Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora
Ruth F. Wolcott.....Spirit Lake

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON INDUSTRIAL HEALTH

Howard H. Smead, Chairman.....Des Moines
Van Robinson.....Des Moines
Raymond F. Frech.....Newton
Leo J. Mitner.....Davenport
Carl J. Lohmann.....Burlington
Edward L. Rohlf, Jr.....Waterloo
Harold A. Spilman.....Ottumwa

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids

NATIONAL EMERGENCY MEDICAL SERVICE

John W. Ferguson, Chairman.....Newton
Floyd M. Burgeson.....Des Moines
Edward M. Honke.....Sioux City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Emil A. Fullgrabe.....Sioux City
Rubin H. Flocks.....Iowa City

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Russell M. Wolfe.....Marshalltown
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Raymond J. Harrington, Chairman.....Sioux City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
Ralph E. Smiley.....Mason City
William Spear.....Oakdale

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, APRIL, 1952

No. 4

Members of the Iowa State Medical Society:

The faculty of the College of Medicine again has the privilege of furnishing the scientific articles for this issue of the *Journal of the Iowa State Medical Society*. It is a pleasure and a privilege to contribute this material.

The Executive Committee of the College of Medicine wishes to express its appreciation to the Iowa State Medical Society and the practitioners of the State for their wholehearted cooperation with the College of Medicine. The response to the request for practitioners who were willing to serve as preceptors for the new tutorial plan of instruction has been most gratifying. Rather drastic changes have been necessary in the preceptorship plan for this first year but the plan will be put into effect in modified form and the experience gained in this preliminary "test run" will be invaluable in subsequent years. The willingness of the physicians to cooperate in this venture assures its success in the future.

The funds received by the College of Medicine from the American Medical Education Foundation have been of great help in maintaining our educational standards during this period of expansion. We wish to thank those who contributed to this Educational Fund and particularly those whose confidence in this school lead them to specifically designate this institution as the recipient of their contributions. We hope that we can justify this expression of confidence.

W. M. Fowler, M.D.
Chairman, Executive Committee
College of Medicine
State University of Iowa



THE TREATMENT OF FACIAL LACERATIONS

WILLIAM C. HUFFMAN, M.D.

AND

DEAN M. LIERLE, M.D.

IOWA CITY

NEARLY EVERY PHYSICIAN will be called upon at some time to treat a facial laceration. The time at which he elects to treat it and the careful effort that he is willing to expend often make the difference between a minimally defacing scar and one that will require extensive further surgery.¹ One is as often as not notified in the middle of the night that a fresh facial laceration has been committed to his care. A clear conscience demands that one give the case immediate attention or surrender it to some other surgeon who is willing to contribute a goodly share of his night's rest to the patient's welfare.

In those cases of facial injury produced by a shearing type of force, the facial laceration is apt to be a linear one (Figure 1) and prove relatively simple to reassemble and repair. On the other hand, if the trauma has been of an explosive or crushing nature the soft tissue damage (Figure 2) is likely to be more extensive and irregular. In the later instances the fitting together of the wound may offer a somewhat difficult problem.

The question as to whether facial fractures should be reduced before the lacerated soft tissue is repaired or whether these procedures should be done in the reverse order is frequently posed.

From the State University Hospitals, Iowa City, Iowa.

We believe that the fractured bone should be treated before the soft tissue is repaired. The defect in the soft tissue may serve as an approach to the fractured bone or may allow the fracture to be reduced under direct vision. In addition one is less likely to reproduce a fracture by gentle approximation of the soft tissue over it than he is to disrupt his soft tissue repair by reduction of the fracture after the wound has been closed.

Any soft tissue separation, whether accidental or surgical, deserves whatever time and care is needed to close it so that minimal scarring will result. We are so accustomed to closing incisions in areas usually covered by clothing that we become inclined to accord imprecise treatment to a cut on the face. One must be prepared to spend an hour or more in closing a laceration that would appear at first glance to require only a few minutes of operating time. As soon as the patient's general condition permits taking the time to do a careful closure, the surgeon's time is of absolutely no importance. In those few cases in which the patient's condition will preclude a precise repair for a matter of days, it may be necessary to do a hurried job and hope for the best, but such instances are rare enough to warrant the surgeon's quizzing himself rather closely as to whether it is himself or the patient that will benefit more from the saving of time. One must be prepared, at least in his own mind, to take the blame for a disfiguring scar rather than to lay it to time and consequences. Even if the patient is in shock, has cerebral damage, or suffers a ruptured spleen it is the duty of the



Figure 1.



Figure 2.

surgeon who is to care for the facial damage to be on hand and treat it as soon as permissible.² The unsightly scars (Figure 3) that are so often excused on the grounds that treatment could not

be instituted because "the patient hung between life and death for a week" may be occasionally unavoidable, but it cannot be denied that even on the busiest surgical services and over several



Figure 3.

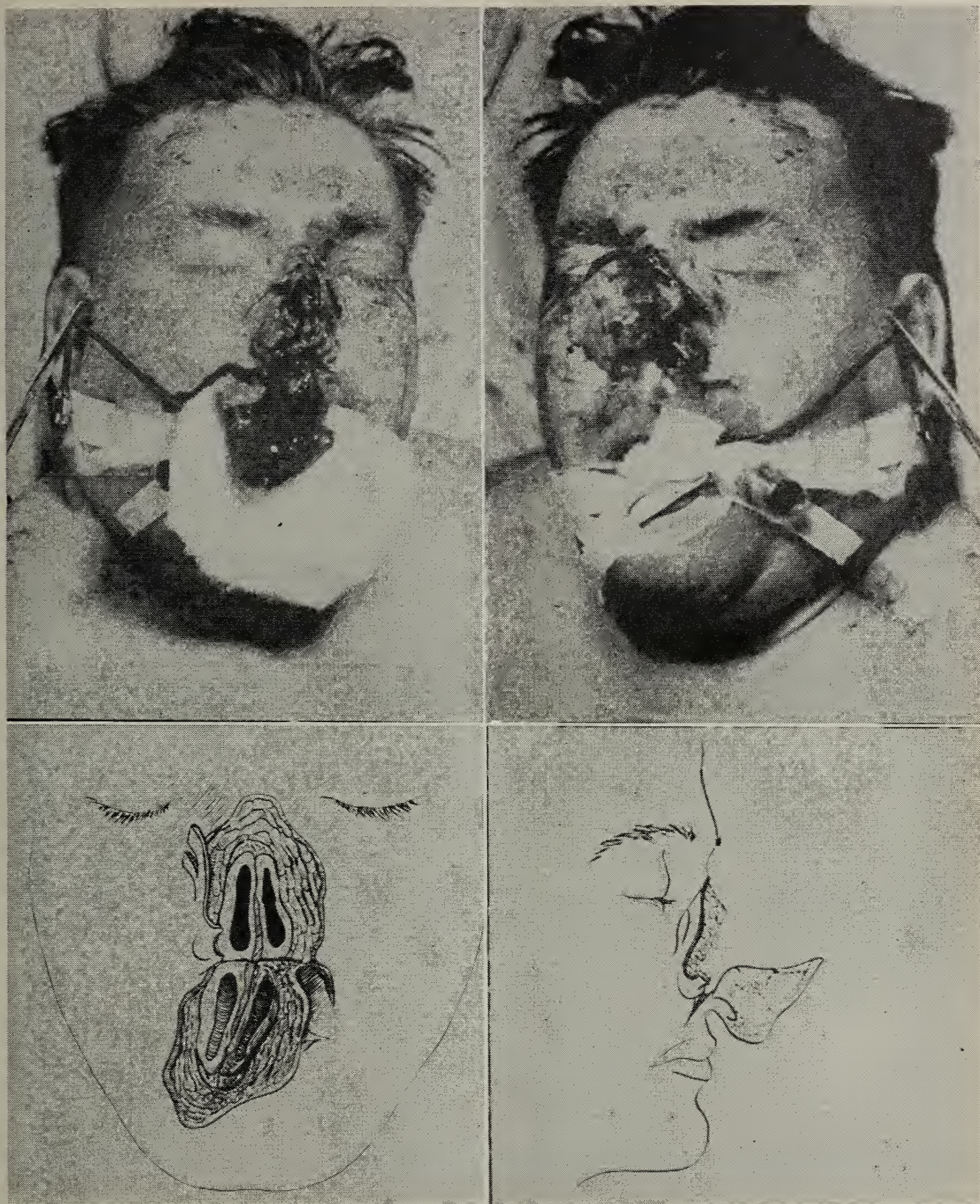


Figure 4. In this instance nearly the entire external nose was left attached only by the base of the columella which was, in turn, dependent for blood supply upon a nearly completely severed upper lip. Note especially the two long, narrow tags of tissue at the right side of the nose, dependent for blood supply on mere wisps of pedicles. When the patient was first seen all of these tissues were cyanotic, cold and apparently without blood supply.

years' time only a few facial injuries that cannot be repaired immediately will be seen.

Any accidental wound poses the problem of debridement; in facial wounds the excision of tissue should be kept at an absolute minimum.

The old adages "when in doubt, debride" and "better too much than too little" do not hold true in the care of facial wounds. In fact, these maxims might be reversed. A tag of tissue that is cyanotic and dependent upon a small pedicle

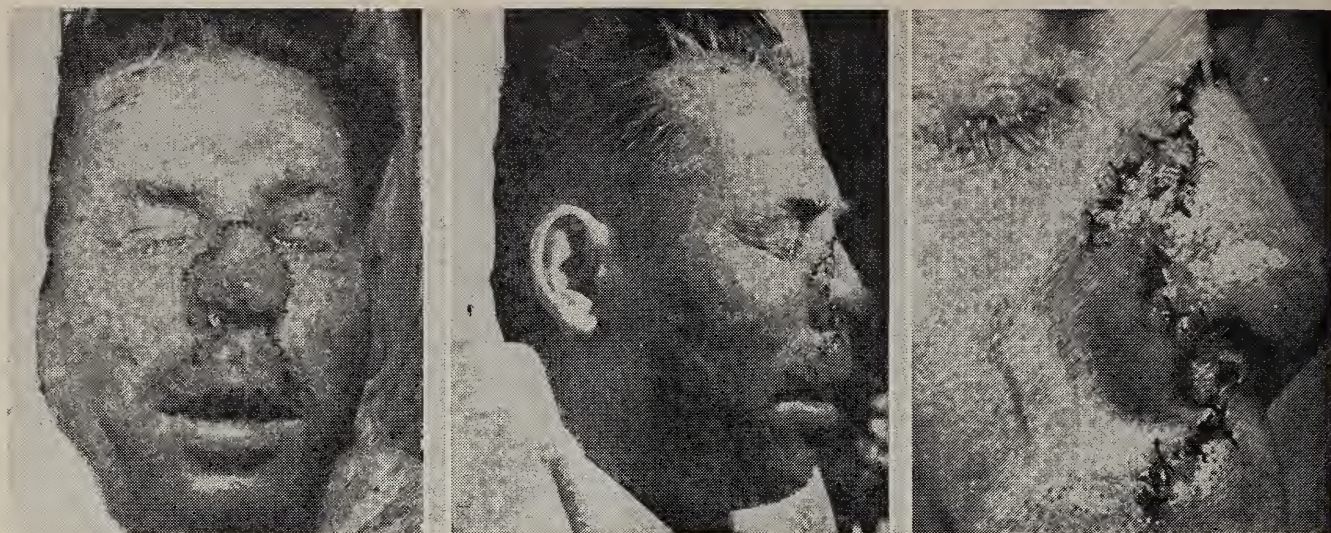


Figure 5. Twenty-four hours after repair all of the soft tissues that originally appeared devitalized have regained normal color.

for blood supply (Figure 4) might be correctly sacrificed on the trunk or on an extremity but a similar flap on the face may be considered as having at least a chance of survival.³ After facial damage it is much better to replace doubtful tissue and hope for healing than it is to discard it (Figures 5 and 6). Facial tissue is precious material and a gamble to save it is commendable.

It might be worthwhile to emphasize that *minimal debridement* does not mean *no debridement*. The fact that most wounds about the face are accidental causes the soft tissue defect to be more or less jagged and beveled with varying amounts of dirt ground into it. Judicious debridement of a few millimeters of the wound edge (Figure 7) furnishes a sharply cut laceration.



Figure 6. Five days after repair. The long, narrow flaps at the side of the nose which, at first, appeared to be of insignificant size are now seen to comprise an appreciable portion of the external nose. To have sacrificed them would have detracted greatly from the final result.

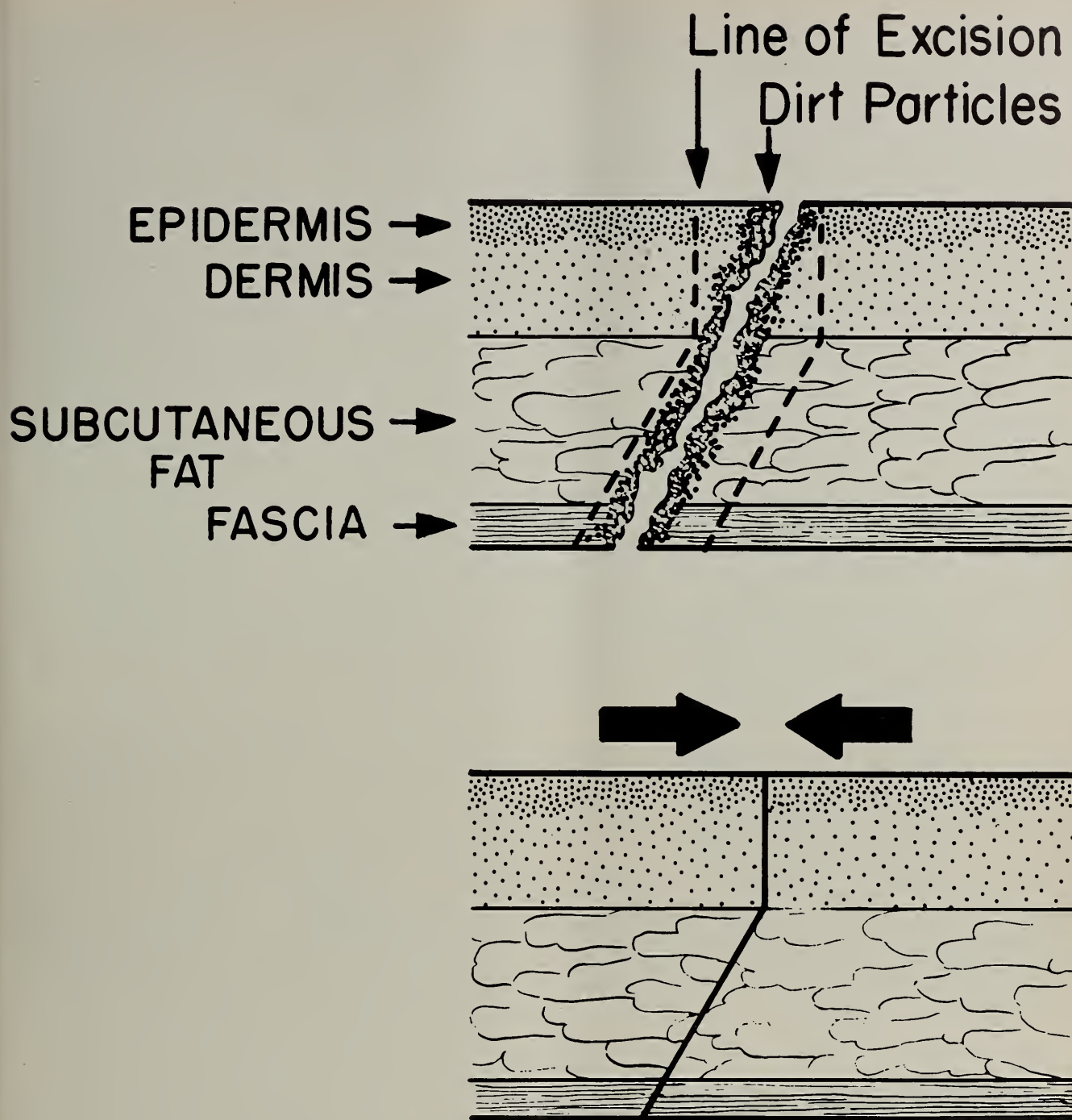


Figure 7.

tion that will allow better approximation, removes foreign material ground into the wounded surface, and converts a grossly contaminated wound into a relatively clean one. If the foreign material remains in the wound, hypertrophic scarring may result^{4, 5}; if it happens to be pigmented and is left behind blue or black tattooing of the scar occurs.

It is hardly necessary to remind any physician that adequate hemostasis is obligatory before beginning wound closure or to describe wound disruptions that are due to massive or infected hematomata (Figure 8), but attention should be called to the necessity for gentleness while trying to obtain a bloodless field. The time that is needed

to secure hemostasis by means of fine-pointed hemostats, minimal inclusion of tissue, and fine ligature material is well invested.

At one time it was standard textbook advice that the mucosal aspect of a through-and-through facial wound should not be closed. It was believed that closure was hazardous because of contamination by oral organisms. This admonition is still heard from time to time and is mentioned only to be condemned. An unapproximated mucosal wound is capable of the same massive scarring and contraction that a skin wound is. In fact, mucosal scar contraction may be great enough to cause distortion of the external face and produce difficulties in speech and mastication (Figure 9).

The modern consensus is that through-and-through wounds should be closed in layers with as close attention paid to the mucosa and subcutaneous tissues as is given to the skin itself.⁶

The question as to the best type of suture material arises constantly. The nonabsorbable buried suture is looked upon by many as the

larger than No. 0000; a wound is more tolerant of a large number of small caliber sutures than it is of a few large ones.

2. The tendency to include massive bites of tissue in tightly tied sutures (Figure 10) is to be avoided in order to obviate tissue strangulation and necrosis.⁷ After one has taught himself to include only small bites of tissue and has learned not to tie his sutures "good and tight" he will have made great progress in wound care.

The number of layers of sutures necessary to secure proper closure depends upon the thickness of the lacerated tissue and the training of the operator, but in wounds involving the full thickness of the cheek four layers is probably the minimum: one layer for the mucosa, one to obliterate deep dead space, one to prevent tension on the skin edges, and a last one for skin closure (Figure 11).

There is an old saying to the effect that one should hardly need skin sutures when it comes time to place them. This is true if care is taken in the placing of sutures to release tension on the skin edges. Here, as always, a carefully laid intradermal suture line of fine material is productive of the best results. Most surgeons agree that sutures lying close beneath the skin surface should be placed in an inverted manner so that the knot will lie as deep as possible. If the skin is undercut and if the suture is passed so that it picks up small bites of dermis a millimeter or so on either side of the wound the skin edges will be well approximated when the knot is tied (Figure 12).

Skin sutures are not meant to combat wound separation; if tension has been overcome by the deeper suture layers, No. 00000 or No. 000000 nonabsorbable materials are of adequate strength to hold skin edges in approximation. They need not be placed more than a millimeter or two from the wound edge and should not be tied tightly. Big bites and firm tying (Figure 13) may produce enough ischemia to invite disruption and are almost sure to leave stitch marks resembling the tracks of a lug-wheeled tractor (Figure 14). A tied suture that indents the skin surface, particularly if there is pallor about it, is too tight and should be replaced (Figure 15). Suturing at a distance and tying over gauze rolls (Figure 16) are necessary procedures at times, but the correct use of deeper sutures usually makes such procedures unnecessary.

The proper use of tension relieving sutures beneath the skin will often permit the removal of skin sutures in 24 to 48 hours. If the skin sutures have been carefully placed and gently tied, one need have little fear of stitch marks if the sutures are left in place for four or five days. Every type of skin suture material has its ardent adherents and abusive detractors. The monofilament sutures seem to produce a little less skin reaction, especially when the suture line is

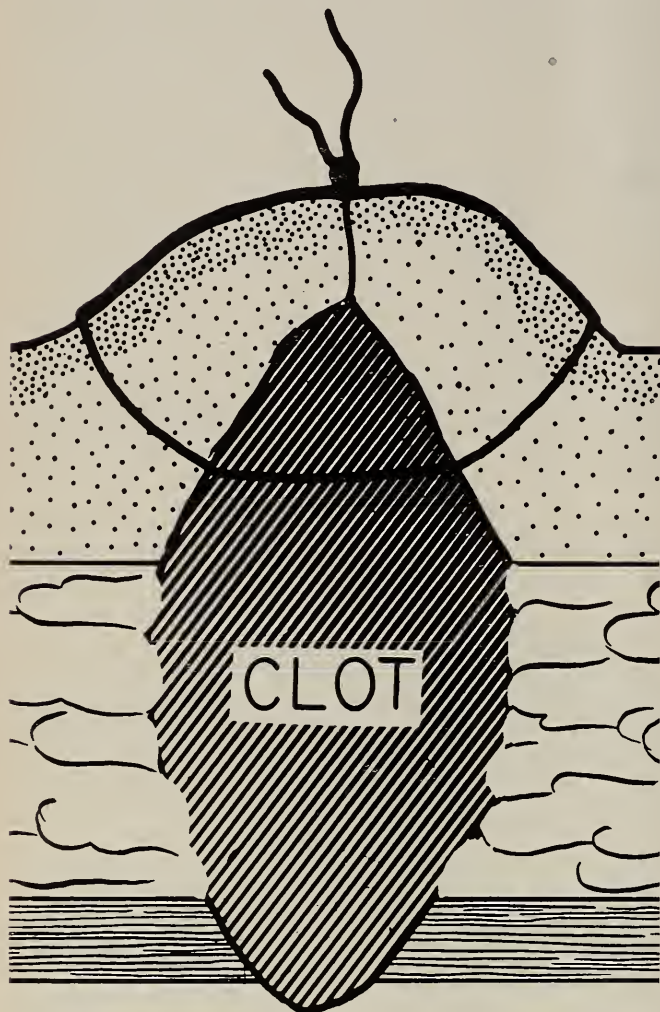


Figure 8.

only proper material and numerous surgeons bury silk, cotton, nylon or linen as a routine procedure. On the other hand, many are loathe to close surface tissues over anything that will not be absorbed, especially in wounds exposed to oral secretions. The advantages of each kind of suture could be argued ad infinitum. It seems better to leave the choice of suture material to the judgment of the individual surgeon, depending upon his past experience and the character of the wound. In spite of differences of opinion pertaining to use of absorbable or nonabsorbable deep sutures, there are some points upon which there is almost unanimous agreement; of these there are two of particular importance:

1. The suture material should be of no greater caliber than is absolutely necessary to approximate wound edges. It is hardly ever necessary to use catgut any heavier than No. 000 or silk

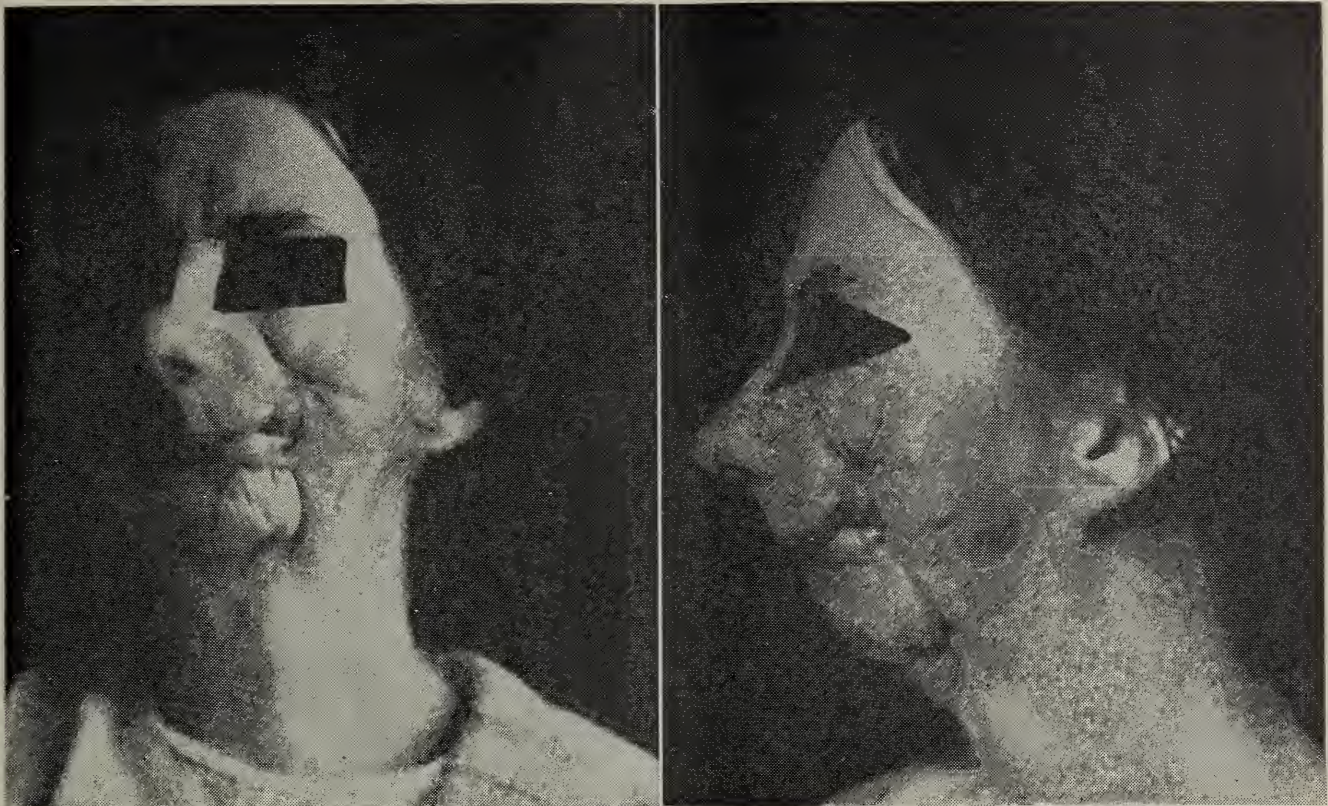
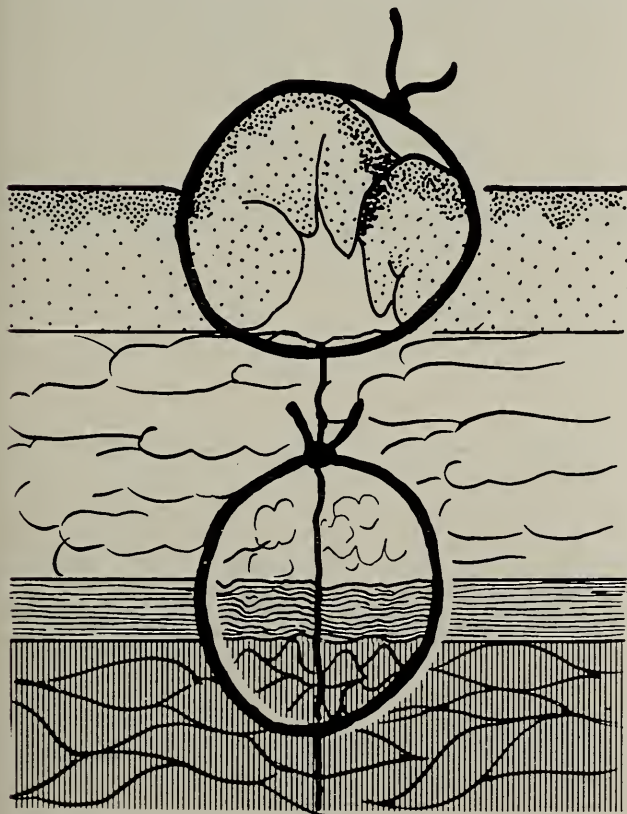


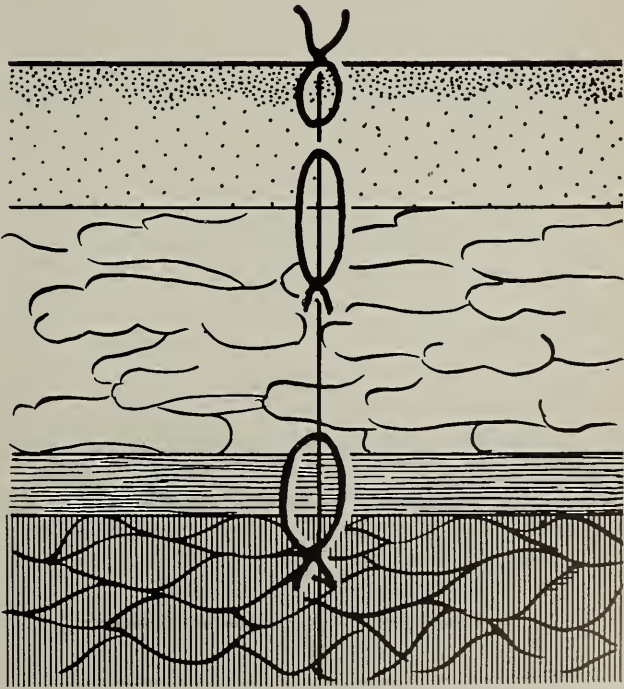
Figure 9.

to be protected by a massive pressure dressing or when a wound must undergo its healing in

hot, humid weather. These sutures, however, are expensive and somewhat difficult to tie correctly.



WRONG



RIGHT

Figure 10.

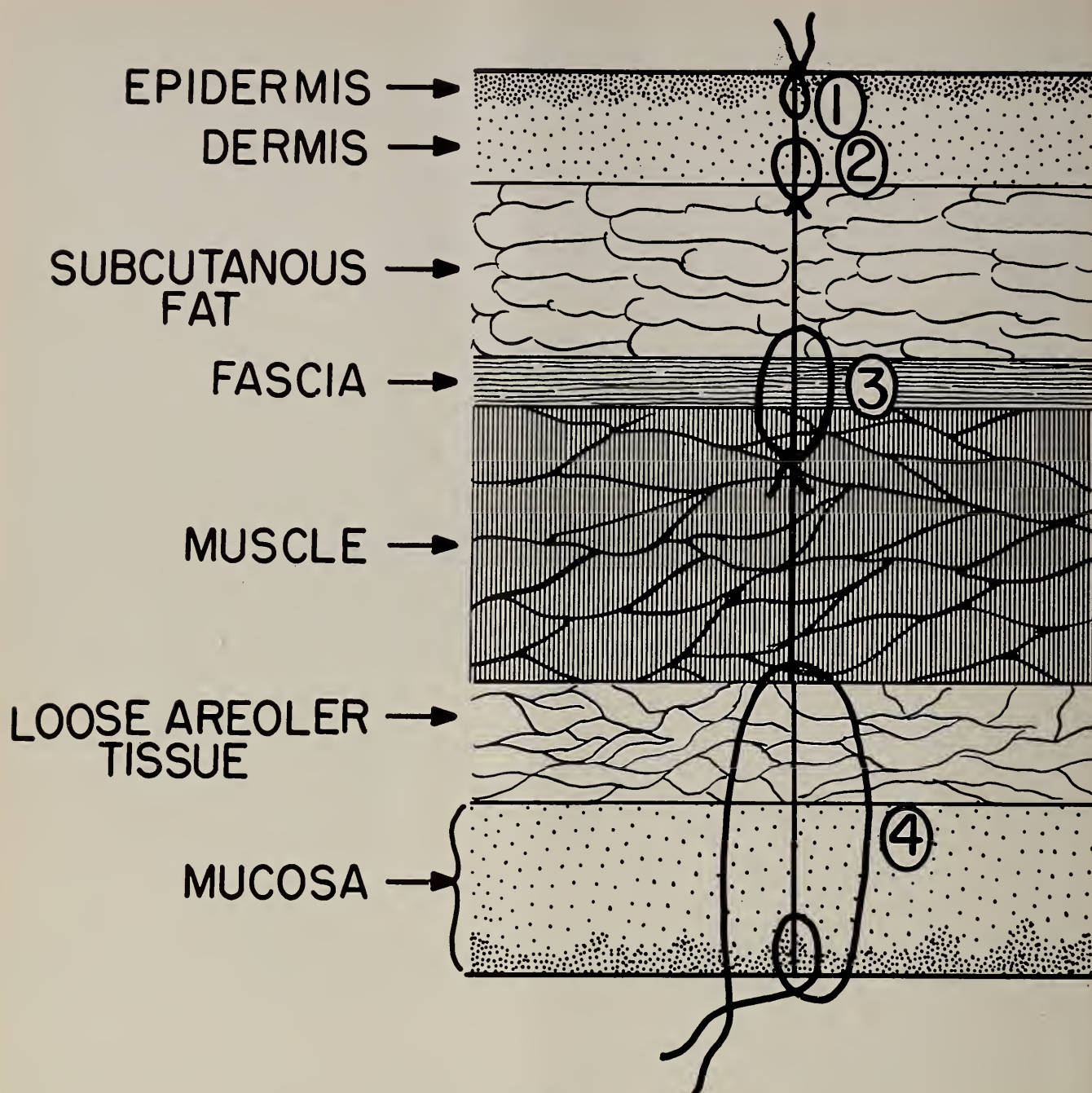


Figure 11.

Their advantages over twisted or braided silk or cotton are probably not worth much argument.

The question as to whether a suture line on the face should be protected by a dressing or left exposed to the air is often heard. If the wound is going to be constantly and copiously soiled by saliva or nasal secretions and if it cannot be protected by a waterproof dressing it may be left without a dressing and frequently cleansed of crusts with normal saline or diluted hydrogen peroxide. Wounds on a "clean area" of the face seem to do better if edema and exudation are kept at a minimum for a few days by a firm pressure dressing.⁸

One frequently lacerated region of the face contains certain structures worthy of special attention. The area bounded by the zygomatic arch,

the angle of the mouth, the lower border of the mandible, and the anterior attachment of the auricle contains the facial nerve and the parotid gland with its duct (Figure 17). Perforating or deep nonperforating lacerations in this location can injure any one or all of these. A deep laceration near the external auditory meatus may involve the main trunk of the facial nerve after it has emerged from the stylomastoid foramen and is turning vertically towards the surface. A more shallow laceration two or three centimeters further forward may cut into the parotid gland and interrupt one or both of the two facial nerve divisions as they lie in the superficial compartment of the gland. A laceration still a little more anteriorly may involve the parotid duct and one or all of the peripheral nerve branches.

Facial muscle activity and the location of the wound give great aid in estimating the point of facial nerve transection. If the main trunk of the nerve is divided its location and repair is not very difficult and is certainly advisable. If one of the two main divisions is cut, exploration of the superficial part of the parotid gland and repair of the nerve is somewhat more difficult but not impossible. It is the opinion of most that search for divided smaller seventh nerve branches is inadvisable. They believe that the added trauma of the tedious, extensive exploration adds greatly

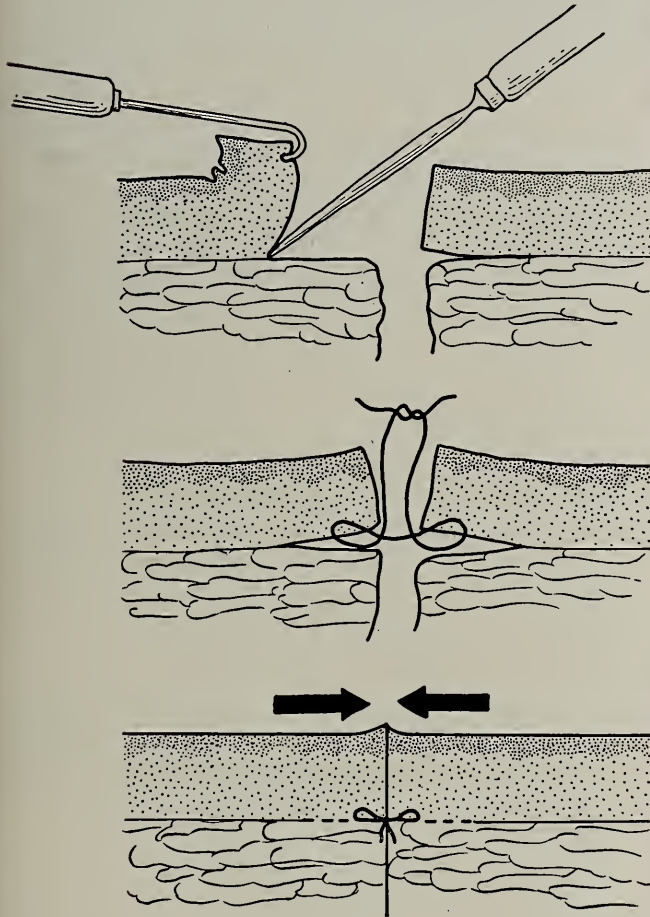


Figure 12.

to the hazard of widespread infection. They also believe that division of a small branch is not of great importance as the group of muscles that it supplies may recover their activity through ingrowth of nerve fibers from the proximal cut end of the nerve or by communicating filaments from other branches, a sort of "vicarious innervation."

Lacerations of the parotid gland are not as difficult to manage as they are usually thought to be. Careful tight closures of the capsule, subcutaneous tissue, and skin followed by application of a pressure dressing will nearly always prevent fistula formation. Unless signs of infection become evident the pressure dressing applied at the time of the operation is best left undisturbed at least six or seven days. The use of



Figure 13.

drugs to depress salivary secretion is not necessary if proper closure and dressing are done. Besides being unnecessary such drugs may lead to a suppurative parotitis since an active flow of saliva does much to prevent infection by organisms implanted at the time of the injury or gaining access to the gland via Stensen's duct.⁹ If a fistula should occur, the tract should be excised and the defect carefully closed only after the subsidence of all infection and tissue reaction to the trauma, usually several months after the

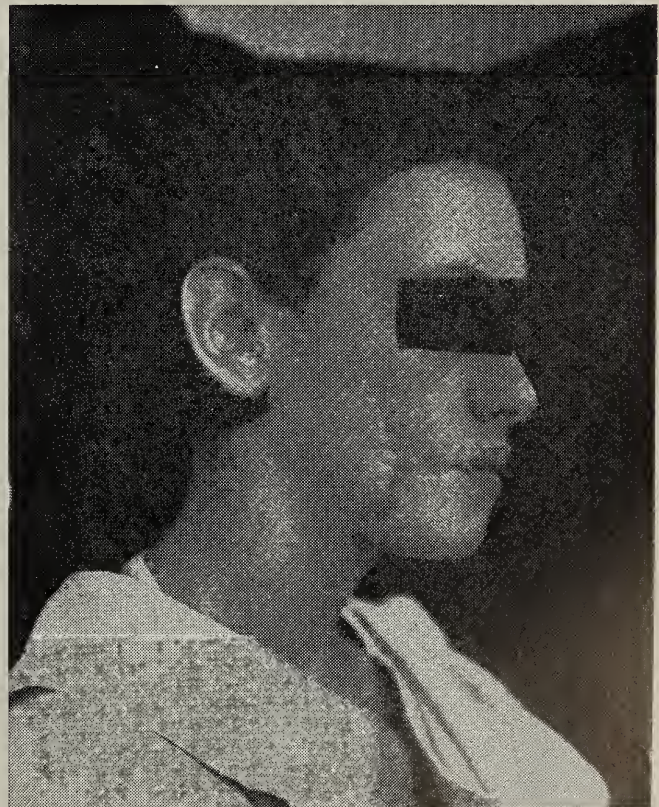


Figure 14.

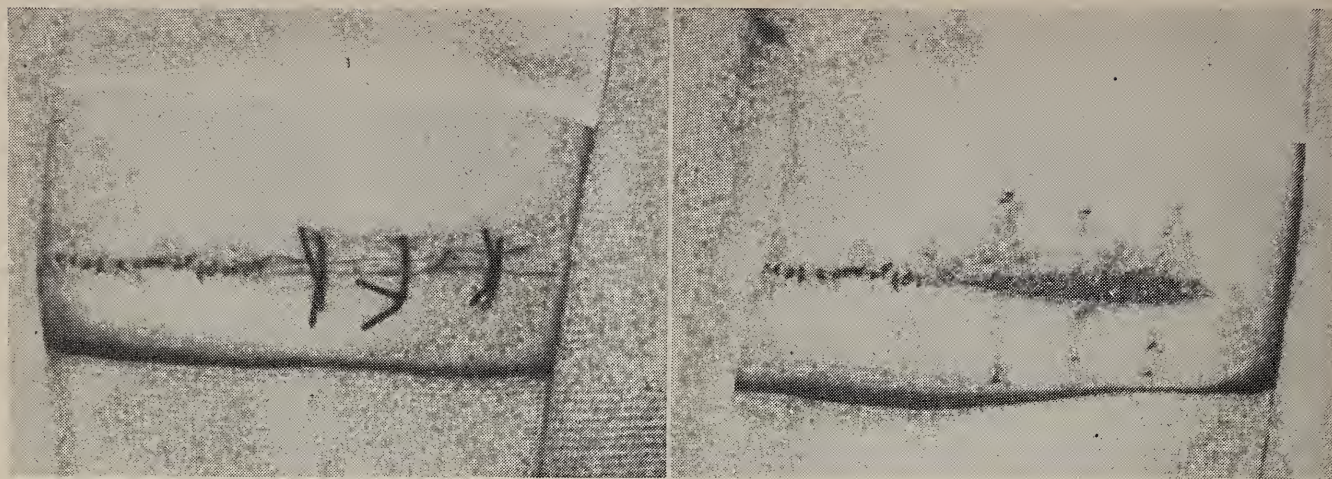


Figure 15.

injury. The use of x-ray therapy to depress salivary secretions will be mentioned later.

Division of Stensen's duct is suspected whenever there are deep lacerations of the posterior or middle face. Positive diagnosis can be made

when saliva is seen spurting into the wound either spontaneously or upon gentle massage of the gland. By such means the proximal end of the divided duct can be identified. The distal end can be located by passing a probe into the duct's

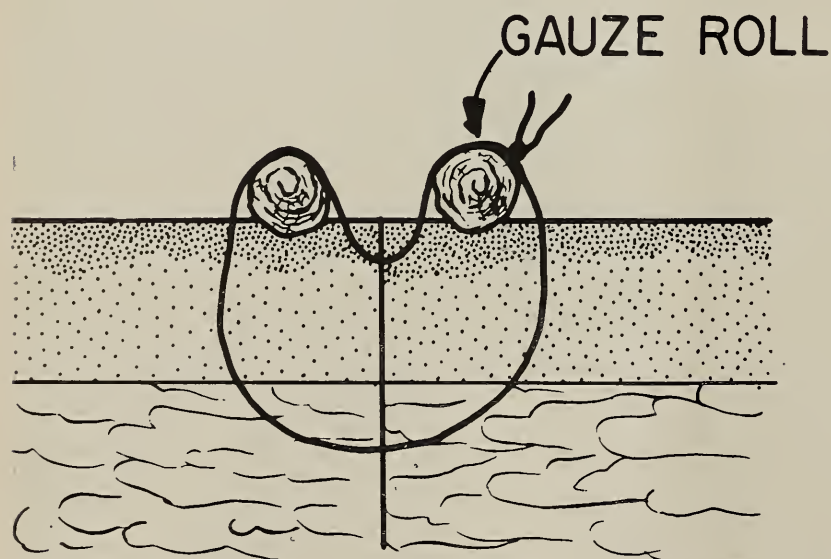
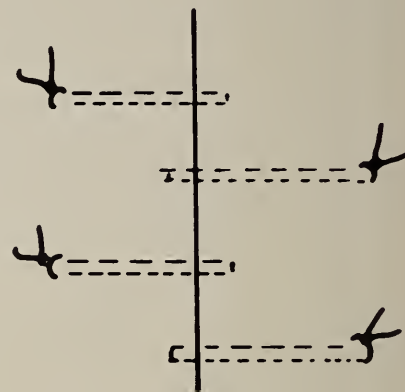
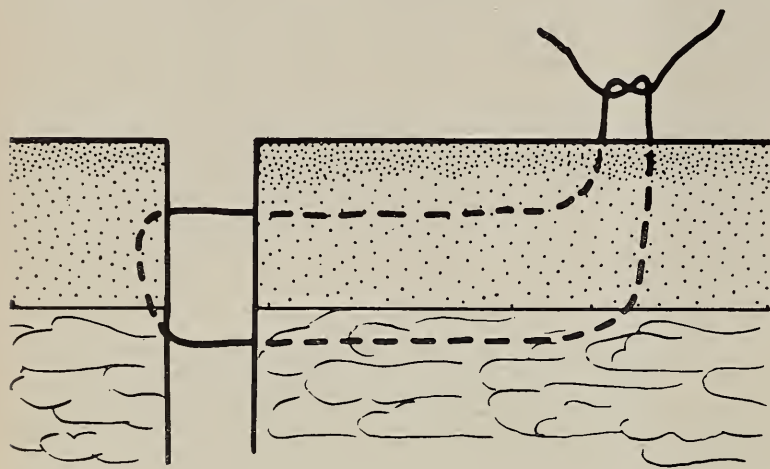


Figure 16.

orifice opposite the second upper molar tooth through the duct and into the wound.

The treatment of a severed parotid duct is a matter of some dispute. It would seem that the most rational procedure is to restore its natural structure as nearly as possible by end-to-end anastomosis so that the reputed valvelike action of the papilla is retained as a guard against ascending infection from the mouth.¹⁰ Repair is best done with an everting suture of arterial silk and is simplified if done over a ureteral catheter or probe. There are some who recommend leaving a catheter or strand of steel wire in place across the anastomosis for several days¹¹ to serve as a stabilizing dowel and to prevent stricture (Figure 18). If a large salivary flow is maintained by early feeding, however, patency of the duct is almost assured without resorting to such mechanical aids. In addition, an indwelling dowel may predispose to obstruction and infection.

If Stensen's duct has been divided by a sharp

remain two courses of procedure. The proximal end of the duct may be fistulized into the mouth through the mucosal aspect of a through-and-through wound or through a separate stab incision; or it may be tightly ligated. The latter procedure is not quite as crude as it might appear.

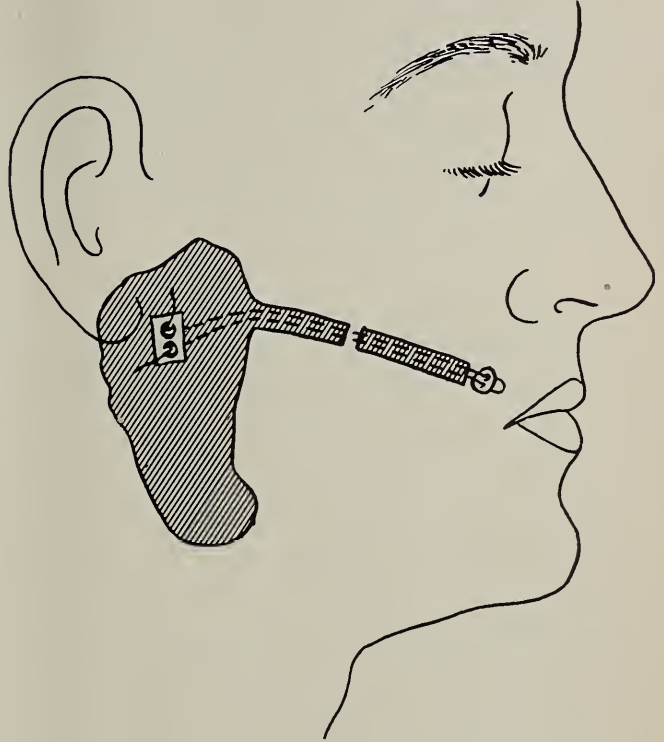


Figure 18.

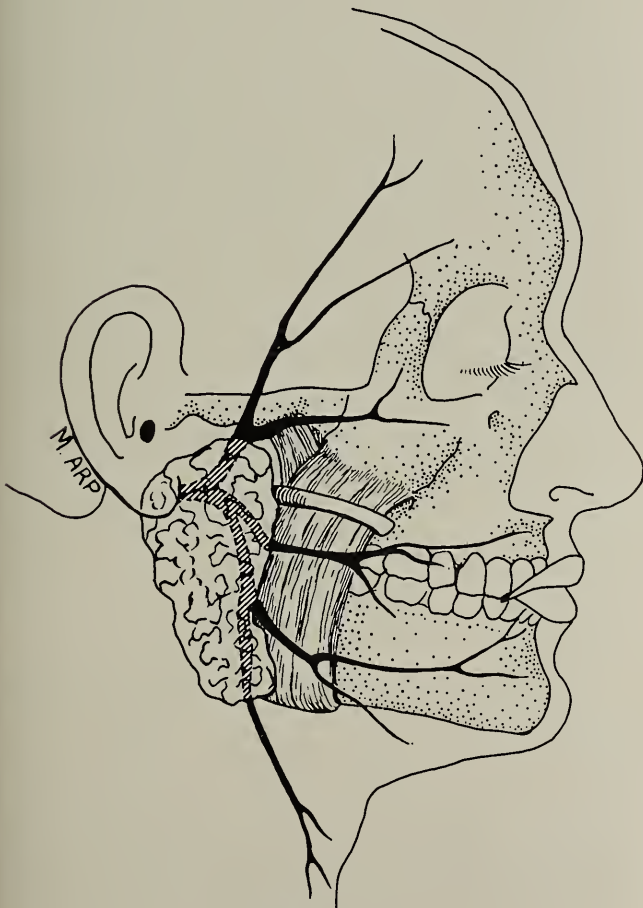


Figure 17.

laceration in the portion overlying the Masseter where it is tough, straight and relatively immobile, a repair as has just been described is not difficult.¹² Avulsion of a portion of the duct or severance anterior to the Masseter may make end-on approximation impossible; if so, there

A sudden and complete obstruction of the duct might be compared to ligation of a ureter after which atrophy of the kidney takes place. If atrophy of the parotid gland is not sufficiently rapid and complete, a few needle aspirations will serve to keep it empty until atrophy occurs spontaneously or can be obtained by x-ray therapy.¹³

SUMMARY

Three factors are of prime importance in determining the results of the treatment of facial lacerations:

1. *Early repair.* The lacerated tissues should be meticulously approximated as soon as the patient's general condition permits. Even after severe injuries the patient can nearly always be subjected to facial repairs in a matter of hours rather than in days or weeks.

2. *Minimal debridement.* Excision of one or two millimeters of the margins of a wound serves to remove gross foreign material and a large proportion of the contaminating bacteria; it also furnishes a wound with sharp edges so that more precise approximation can be accomplished. Debridement should be *only* minimal; even tags of tissue that at first examination appear to have little chance of survival will nearly always heal well due to the rich blood supply to the face.

3. *Closure without tension.* Skin sutures should not be depended upon to hold the wound together. This should be accomplished by the careful placing of one or more layers of sutures in the tissues beneath the skin surface. In addition, wounds involving the full thickness of the face demand that close attention be given to repair of the lacerated mucosa.

The factors enumerated will do much to make the difference between a satisfactory result and one that will require extensive further surgery. A few poor results are enough to demonstrate the inadvisability of rough handling, coarse sutures and stretching of tissues.

BIBLIOGRAPHY

1. Kanthak, F. F.; and Dubrul, E. L.: Immediate repair or war wounds of the face. *Plast. & Reconstruct. Surg.*, 2:110-126 (March) 1947.

2. Slaughter, W. B.; and Wong, W.: Early management of facial injuries. *S. Clin. North America*, 26:2-19 (February) 1946.

3. Matthews, D. N.: *The Surgery of Repair*. Springfield, Ill., Charles C Thomas, 1946.

4. Glucksmann, A.: Local factors in the histogenesis of hypertrophic scars. *Brit. J. Plast. Surg.*, 4:88-103 (July) 1951.

5. Mowlem, R.: Hypertrophic scars. *Brit. J. Plast. Surg.*, 4:113-120 (July) 1951.

6. Padgett, E. C.; and Stephenson, K. L.: *Plastic and Reconstructive Surgery*. Springfield, Ill., Charles C Thomas, 1948.

7. Christopher, F.: *A Textbook of Surgery*. Philadelphia, W. B. Saunders Company, 1946.

8. Blair, V. P.: Influence of mechanical pressure on wound healing. *Illinois M. J.*, 46:249-252 (October) 1924.

9. Gustafson, J. R.: Acute parotitis. *Surgery*, 29:786-801 (May) 1951.

10. Bailey, H. A.; and Skaff, V.: Surgical repair of lacerations and fistulae of the parotid duct. *Ann. Surg.*, 1:103-108 (January) 1949.

11. Bornstein, L. A.; and Simon, B. E.: Successful primary repair of severed parotid duct. *Plast. & Reconstruct. Surg.*, 6:217-227 (September) 1950.

12. Sparkman, R.: Laceration of parotid duct; further experiences. *Ann. Surg.*, 131:743-754 (May) 1950.

13. Ellinger, F.: *The Biologic Fundamentals of Radiation Therapy*. New York, N. Y., Elsevier Publishing Co., Inc., 1941.

THE PERSISTENT OCCIPUT POSTERIOR

JOHN H. RANDALL, M.D.
IOWA CITY

A RECENT study of births at the University of Iowa Hospitals from January 1, 1940 to January 1, 1951 was undertaken to determine the significance of the persistent occiput posterior, a presentation greatly feared by many doctors. Although some obstetricians regard the occiput posterior as a perfectly normal and physiologic presentation and state that it gives no more trouble than the occiput anterior, it does present a problem to many physicians when anterior rotation does not take place. Certainly, no one approaches the persistent occiput posterior with the same equanimity, confidence and assurance that he does the occiput anterior. During the years under consideration there were 471 persistent occiput posteriors in 12,150 births (3.8 per cent). This number excludes all cases in which the occiput

rotated from a posterior to a transverse or anterior position. No attempt has been made to determine from hospital records the number of occiput posterior presentations at the beginning of labor, because the results would be based largely upon abdominal palpatory findings which in any clinic are not too accurate. Only x-ray examinations would be reliable for such a determination.

It has always been the rule in the University of Iowa Hospitals to allow a second stage of at least two hours with the head in mid pelvis and an hour with the head in low pelvis before operative delivery is attempted. The number of persistent occiput posteriors at the end of labor can be accurately determined, for the physician can see the fetal head emerge from the birth canal face to pubis in the spontaneous deliveries and in those that come to operative delivery he becomes aware of the correct diagnosis. In any large series of parturients given an adequate second stage of labor, the incidence of persistent occiput posterior should be three to four per cent. In a perusal of obstetric literature, one finds the incidence of occiput posterior presentations at the beginning of labor to be variously estimated from 20 to 30 per cent. These figures are based largely upon abdominal palpatory findings. Accepting these estimations as accurate, it can be said that approximately 80 to 90 per cent of all occiput posteriors rotate either to an anterior or less commonly to a transverse position. Ten to 20 per cent will remain as persistent occiput posterior, and will either deliver spontaneously face to pubis or will eventually come to operative delivery. It is this latter group that gives considerable difficulty to physicians, and contributes much toward poor obstetric results. The baby which delivers spontaneously face to pubis is no more of a problem than other spontaneous births except that in certain instances patience will be necessary in anticipation of spontaneous rotation.

Of the 471 patients with persistent occiput

Table 1. Position and Parity—Persistent Occiput Posterior

| Type of Delivery | | | | Right | Left |
|------------------|-------|------------|------------|-----------|-----------|
| | | | | Occiput | Occiput |
| | | Multiparas | Primiparas | Posterior | Posterior |
| Spontaneous | ..... | 190 | 42 | 130 | 102 |
| Operative | ..... | 75 | 164 | 142 | 97 |
| Total | ..... | 265 | 206 | 272 | 199 |

posterior (Table 1) the fetal back was on the maternal right side in 272 (ROP) and on the left in 199 (LOP). Many observers have emphasized the greater incidence of ROP presentations compared to LOP. One should always expect a persistent occiput posterior when the fetal back is directed to the right side of the mother. Since the back of the fetus is on the mother's left side in 60 per cent of all vertex presentations, certain factors must predispose to right sided persistent occiput posterior. Calkins¹ has explained the greater frequency as due to the presence of the

From the Department of Obstetrics and Gynecology, State University of Iowa, Iowa City.

bladder in the right anterior quadrant of the pelvis, while others feel the colon in the left posterior quadrant is the explanation. Two hundred and sixty-five of the patients were multiparas (56.3 per cent) and 206 (43.7 per cent) were primiparas. Since the ratio of multiparas to primiparas in the clinic is two to one, it is obvious that primiparity has predisposed to persistent occiput posterior. Spontaneous delivery occurred in 71.7 per cent of the multiparas but in only 20.4 per cent of the primiparas.

In this series the average duration of labor for 206 primiparas was 19.4 hours for the first stage and 2.2 hours for the second stage which is greater than the average quoted by Eastman² (Table 2). If the average duration of labor in multiparas was influenced at all, it was shortened. Calkins³ has stated that the length of labor in occiput posterior presentations is not increased in the first stage and is only slightly prolonged in the second stage. The number of prolonged labors (over 30 hours) for the entire series was 50 (10.7 per cent). At the University of Iowa Hospitals, the general incidence of prolonged labors for 25,630 deliveries has been 3.3 per cent. Although the average duration of labor in primiparas who have persistent occiput posterior is prolonged, it is doubtful that the slight increase would have much effect upon the final outcome of either the mother or baby. It is not the increased duration of labor which has produced disastrous results in the management of persistent occiput posteriors, but rather the attempt of many physicians to shorten labor, especially the second stage. An hour or two added to the second stage should inconvenience the attending physician very little and will often improve the chances for an easy and normal delivery.

From Table 3 it can be seen that almost half of the persistent occiput posteriors have delivered spontaneously. This is explained largely by the

Table 2. Duration of Labor—Persistent Occiput Posterior

| | | | |
|-------------------------|-----|--------------|-------------|
| Multiparas | 265 | First Stage | 7.6 hours |
| | | Second Stage | 1.0 hours |
| | | Third Stage | 7.7 minutes |
| Primiparas | 206 | First Stage | 19.4 hours |
| | | Second Stage | 2.2 hours |
| | | Third Stage | 9.4 minutes |
| No. of Prolonged Labors | 50 | Percent | 10.7 |

fact that all patients are given a reasonable length of time to deliver themselves. The most common operative procedure has been forceps rotation or the Scanzoni maneuver (28.45 per cent). Sixty-eight patients or 14.43 per cent have been delivered with forceps without rotation. When the fetal head is in low pelvis with the sagittal suture in the antero-posterior diameter of the outlet, forceps delivery without rotation can often be done without difficulty. A generous episiotomy and preferably of the mesiolateral type should be done to protect the rectum from severe lacerations. However, if considerable traction is

required to deliver the head as an occiput posterior, rotation to an anterior position should be always undertaken. When the fetal head is in mid pelvis, rotation is usually necessary before the head can be safely extracted. Rotation of the head produces a readjustment of more favorable diameters of the fetal head to the mother's pelvis and permits easier delivery. Man-

Table 3. Method of Delivery—Persistent Occiput Posterior

| Method of Delivery | No. of Cases | Per Cent |
|---------------------------|--------------|----------|
| Spontaneous Delivery | 232 | 49.25 |
| Forceps Rotation | 134 | 28.45 |
| Forceps Without Rotation | 68 | 14.43 |
| Manual Rotation | 27 | 5.72 |
| Cesarean Extra-Peritoneal | 9 | 1.91 |
| Cesarean Hysterectomy | 1 | 0.21 |
| Total | 471 | 100.00 |

ual rotation was used in 27 cases (5.7 per cent) and was followed by forceps extraction in all of these except five. Manual rotation usually requires a good relaxing anesthesia which can best be obtained with ether. It is extremely difficult to manually rotate the head from an occiput posterior position in those patients, who have been in labor a long time or have had early premature rupture of the membranes, for in such cases the uterus is tonic and closely applied to the fetus. Forceps rotation with the handles describing a wide arc can usually be performed under light anesthesia and without undue trauma to mother and baby. When the head is manually rotated, it is often displaced to a higher level and has a greater tendency to revert back to its original position. Perhaps, a physician should use that type of rotation, for which he has developed the most skill.

In this series of persistent occiput posteriors, nine patients were delivered by an extra-peritoneal cesarean section. Eight of these patients had prolonged labors from uterine inertia, and one had a labor of eight hours but was delivered by this type of section because of failed forceps due to contracted pelvis. One patient, para 8, had a labor of 68 hours, and because of failed forceps due to a contraction ring, a cesarean hysterectomy was done.

It has been observed in this clinic, that those patients who have had a prolonged labor and should be delivered in the interest of mother or baby before complete cervical dilation and retraction have occurred, should be treated by extra-peritoneal or low cervical cesarean section. This can be done under the protection of antibiotic and chemotherapeutic agents with less risk to both mother and baby. In the present age, there is little justification for extremely traumatic and difficult vaginal deliveries. The internal version and extraction done under adverse circumstances or traumatic forceps are not the solution of the difficult persistent occiput posterior and should be discarded in favor of extra-peritoneal or low cervical cesarean section. If the fetal head cannot be readily extracted with for-

ceps after a few trials of moderate traction, the dystocia is usually due to cephalopelvic disproportion, incomplete cervical dilation, failure of rotation, or less commonly a contraction ring. It is the duty of the attending physician to correctly diagnose the cause of the dystocia, and institute

Table 4. Fetal Deaths—Persistent Occiput Posterior

| Type of Delivery | No. of Cases | Fetal Deaths | Per Cent |
|--------------------------|--------------|-----------------|----------|
| Spontaneous | 232 | 5 (4 premature) | 2.1 |
| Low Forceps Rotation | 89 | 1 | 1.1 |
| Mid Forceps Rotation | 45 | 3 | 6.6 |
| Forceps Without Rotation | 68 | 4 (2 premature) | 5.8 |
| Manual Rotation | 27 | 2 | 7.4 |
| Extra-Peritoneal Section | 9 | 0 | 0.0 |
| Cesarean Hysterectomy | 1 | 0 | 0.0 |
| Total | 471 | 15 | 3.1 |

that type of therapy which is safe for both mother and baby.

There were no maternal deaths in the series. Fifty patients were febrile (10.6 per cent) but only 42 of these had puerperal endometritis (8.9 per cent). Six patients had postpartum pyelitis and two had mastitis. The good maternal results were attributed to the prompt recognition and adequate treatment of antenatal complications and the elimination of traumatic deliveries which are seen too commonly in persistent occiput posteriors.

There were 26 fetal deaths in the series (5.5 per cent); 17 of these were mature babies and nine were premature. The uncorrected mortality of the babies delivered spontaneously was 4.3 per cent and 6.6 per cent for those born by some operative procedure. Most of the premature babies delivered spontaneously and account for many of the mortalities in the spontaneous group. Eleven babies died either before or early in labor and their deaths had nothing to do with the type of presentation.

There were 15 fetal deaths that occurred during delivery or in the neonatal period and some of these could have been related to the type of presentation and its method of treatment. (Table 4)

Table 5. Complications—Persistent Occiput Posterior

| Complications | No. of Cases | Per Cent |
|-----------------------------|--------------|----------|
| Complete Tear | 5 | 1.06 |
| Prolapse of Cord | 4 | .85 |
| Postpartum Hemorrhage | 35 | 7.43 |
| Funnel Pelvis | 36 | 6.37 |
| Generally Contracted Pelvis | 5 | 1.06 |
| Mid-Pelvic Contraction | 1 | 0.21 |
| Simple Flat Pelvis | 1 | 0.21 |
| Premature Births | 25 | 5.30 |

Two hundred and thirty-two patients delivered spontaneously and in this group there were five deaths (2.1 per cent). Low forceps rotation was done 89 times with one fetal death (1.1 per cent). Mid forceps rotations and forceps without rotation were associated with increased fetal mortality, namely 6.6 and 5.8 per cent respectively. Two babies that were delivered after manual rotation expired but in each case death was due to the operative procedure which was used after manual rotation was accomplished.

Table 5 shows the maternal complications. There were five complete tears of the perineum. It is often emphasized that occiput posteriors when delivered as such, predispose to severe lacerations because of the larger fetal diameters coming through the birth canal as the result of deflexion. There were four cases of prolapse of the cord. Late fixation of the fetal head and premature rupture of the membranes which are often seen in the persistent occiput posterior predispose to this complication. Hemorrhage during and after the third stage (600 cc. or more) occurred in 35 patients (7.4 per cent). Prolonged labors with uterine atony, the high per cent of operative deliveries, increased extent of lacerations, and deep anesthesia all played a part in the increased incidence of hemorrhage. There were 25 premature births (5.3 per cent), which is the usual incidence of prematures in this clinic. Some observers have stated that the premature infant is more likely to be born face to pubis due to the fact that the small head makes it unnecessary for the normal mechanism of labor to take place. In this series, prematurity seemed to have no relationship to the incidence of persistent occiput posteriors.

It has often been claimed that certain types of contracted pelvis have an influence on the incidence of persistent occiput posterior. In this series thirty cases had a funnel pelvis and some of these probably had anthropoid and android features which predispose to occiput posterior. Thoms,⁴ D'Esopo⁵ and Caldwell et al⁶ have emphasized the narrowing of the transverse diameter of the pelvic inlet and of the fore pelvis as important factors in the occurrence of occiput posterior presentations. Five patients had a generally contracted pelvis, one had a mid pelvic contraction and one had a simple flat pelvis. Since it has not been a routine to do x-ray pelvimetry on all patients, it is probable that some mildly contracted pelvis have not been diagnosed.

SUMMARY AND CONCLUSIONS

1. 471 cases of persistent occiput posterior presentations have been reviewed. The incidence of the persistent occiput posterior was found to be 3.8 per cent of all births.
2. Persistent occiput posterior was more commonly seen in primiparas and occurred more frequently on the right side.
3. 79.6 per cent of the persistent occiput posteriors in primiparas and 28.3 per cent of those in multiparas came to operative delivery.
4. The duration of labor was prolonged in primiparas but not in multiparas.
5. Rotation and extraction with forceps gave excellent results when the head was in low pelvis. Mid forceps rotation and forceps extraction without rotation resulted in an increased fetal mortality.
6. Traumatic forceps as well as internal version and extraction for the treatment of persistent

occiput posteriors should be discarded in favor of extra-peritoneal or low cervical cesarean section.

BIBLIOGRAPHY

1. Calkins, L. A.: Etiology of occiput presentations. *Am. J. Obst. & Gynec.*, 37:618-623 (April) 1939.
2. Eastman, N. J.: *Williams Obstetrics*. New York, Appleton-Century-Crofts Co., Inc., 1950.
3. Calkins, L. A.: Occiput posterior—normal presentation. *Am. J. Obst. & Gynec.*, 43:277-286 (February) 1942.
4. Thoms, H.: Type of pelvis immediately associated with occipitoposterior position. *Surg., Gynec. & Obst.*, 56:97-100 (January) 1933.
5. D'Esopo, D. A.: Occipitoposterior position; its mechanism and treatment. *Am. J. Obst. & Gynec.*, 42:937-957 (December) 1941.
6. Caldwell, W. E.; Moloy, H. C.; and D'Esopo, D. A.: Further studies on pelvic architecture. *Am. J. Obst. & Gynec.*, 28:482-497 (October) 1934.

INTERVERTEBRAL DISC HERNIATIONS IN THE THORACIC REGION

ROBERT L. IMLER, M.D.

AND

ADOLPH L. SAHS, M.D.

IOWA CITY

During the past 12 years many articles have appeared in the literature, concerning the problem of intervertebral disc disease. However, with few exceptions, interest in this subject has been confined first to the lumbar, and later to the cervical regions. Recently our attention has been directed to intervertebral disc disease in the thoracic area. We wish to report two cases of this nature.

In 1947, Bradford and Spurling¹ described a patient who presented the picture of progressive paraplegia due to spinal cord compression from a protruded intervertebral disc between the fourth and fifth dorsal vertebrae. The patient made a satisfactory recovery following laminectomy and removal of the disc. In 1946, Young² reported four examples of thoracic disc herniations which were confirmed by operation. In this series, nine additional cases were suspected after clinical examination and roentgenographic studies, but were not confirmed. In 1950, Love and Kiefer³ reported 17 instances of thoracic disc herniations, all of which were confirmed by operation. This series, which accumulated over a period of 26 years, is to date the most extensive one published. Following dissection of 99 spinal columns, Haley and Perry⁴ found 63 specimens with one or more protrusions of the intervertebral disc. Protrusions in the thoracic area were found in seven cases. Two of these disc protrusions were of a size 4 to 7 mm., and were considered large. The remainder, nine in all, were smaller.

CASE REPORTS

Case 1. A. F., a 63 year old man, was admitted to the University Hospital June 23, 1949. His past medical history revealed that for the preceding four years he had been treated for diabetes mellitus, but adequate control had not been established. In January, 1949, he first noticed the gradual onset of right lower quadrant

abdominal pain which radiated into the right testicle. The testicle became swollen and tender, and it became necessary to hospitalize the patient. He was treated symptomatically by the application of ice packs and after one week returned to work.

In February, 1949, he began to experience pain, originating in the hip regions, and radiating down the posterior aspect of both thighs and calves to the feet. The pain was most severe at night and was aggravated by physical exertion. In March he noticed that his legs were becoming weak and in June the control of his bladder function became impaired. At the time of his admission to the hospital he had lost approximately 20 pounds. Physical examination revealed advanced atrophy and loss of strength in both lower extremities. The abdominal reflexes and deep tendon reflexes in the lower extremities were absent, and the Babinski sign was weakly positive bilaterally. The straight-leg raising test was painful and was restricted bilaterally. Severe impairment of pain, vibratory, two-point and position sensation in both lower extremities was noted.

The laboratory examinations revealed the following values: Hemoglobin 13.4 Gm. per 100 cc., erythrocytes 4,520,000 per c. mm., leucocytes, 6,400 per c. mm., with a normal differential cell count. The blood sedimentation rate (Westergren) was 30 mm. in 60 minutes. The blood serological tests were negative for syphilis. The fasting blood sugar was 255 mgm. per 100 cc. The blood urea nitrogen was 20 mgm. per 100 cc. The total plasma proteins were 6.51 Gm. per 100 cc.; the albumin was 3.93 Gm. per 100 cc., and the globulin was 2.58 Gm. per 100 cc. The urinalysis revealed a specific gravity of 1.025, and the reaction was 5.5. There was no albumin, but a trace of sugar was noted. The microscopic examination disclosed 3-5 epithelial cells per high power field. The spinal fluid was clear and colorless, under an initial pressure of 110 mm. of water, and the jugular compression and release produced a prompt rise and fall in the dynamic system. Microscopic examination disclosed 17 lymphocytes per cc. mm., and the Pandy test was two plus positive for globulin. The total protein was 178 mgm. per 100 cc. The sugar and chloride determinations were 40 mgm. per 100 cc., and 718 mgm. per 100 cc. respectively. The Wassermann test was negative for syphilis, and the Lange gold curve was 0000000000. The electrocardiogram was interpreted as normal. Roentgenograms of the skull, chest and pelvis failed to disclose any abnormalities, while those of the dorsal and lumbar spine showed advanced hypertrophic arthritis. There was no narrowing of the intervertebral disc spaces. Roentgenographic studies of the colon were reported as normal. A cystourethrogram indicated mild benign prostatic hypertrophy. Pantopaque myelography studies revealed a filling defect between the eighth and ninth dorsal vertebrae. (Figure 1.).

The diabetes mellitus was controlled by a No. 70 diabetic diet in conjunction with regular and protamine zinc insulin. On August 15, 1949, a laminectomy was performed by members of the Department of Neurosurgery, and a herniated disc was removed from the eighth dorsal interspace. The patient made an uneventful recovery, and was discharged from the hospital on September 18, 1949. At that time he had good bowel and bladder function, and had experienced some return of the deep sensation in the lower extremities. However, his thighs and legs remained so weak that he was unable to walk alone.

This patient again was admitted to the University Hospital on June 3, 1950. He had fallen during the preceding January, and as a result of bruises of his knees

From Department of Neurology, State University of Iowa, Iowa City.

had remained in bed, where he had developed flexion contractures of his lower extremities. After treatment with physical therapy, he became able to walk alone. At the time of his discharge, August 3, 1950, there were

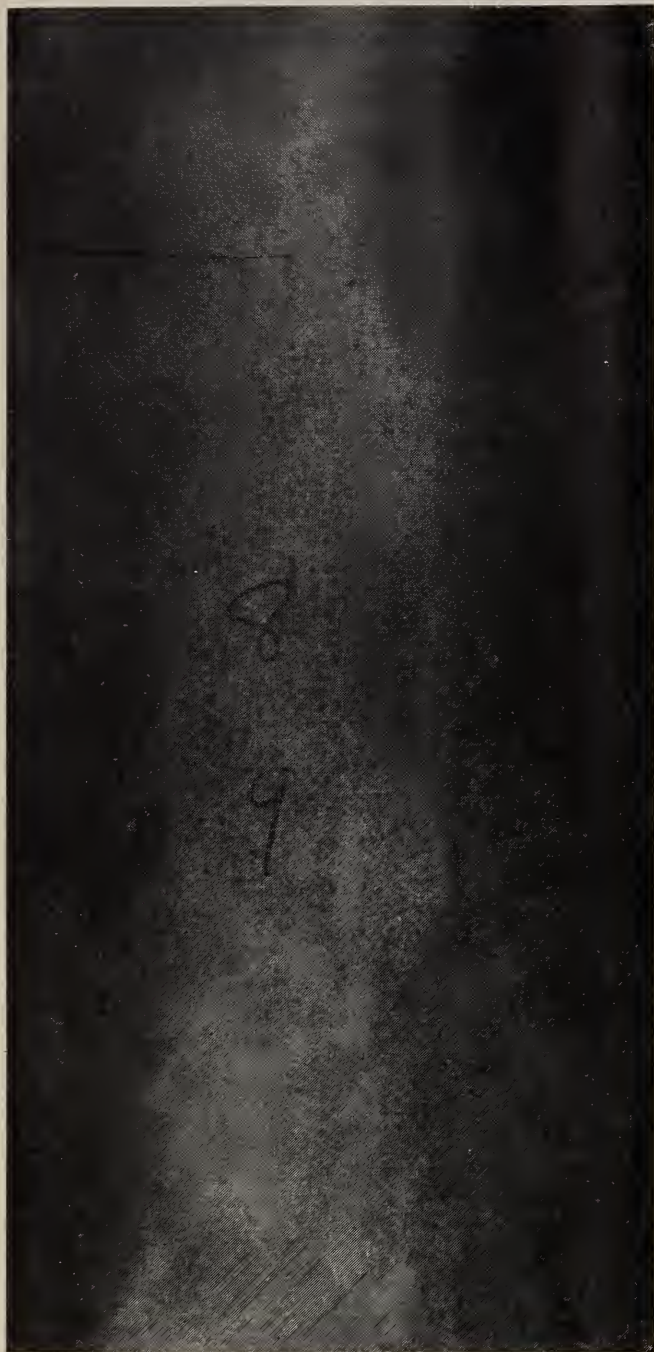


Figure 1.

residual findings of mild contracture deformities of the knees, restricted straight leg raising and hip joint mobility; absence of the deep tendon reflexes in the lower extremities and bilaterally positive Babinski responses. The alternate motion rate was reduced in his legs, but a sensory examination revealed no gross abnormalities.

Case 2. S. F., a 62 year old man, was first seen at the University Hospital as an out-patient on November 14, 1950. His chief complaint at that time was of pain of four to five years' duration which originated in the low back and radiated to the left flank, the left costal margin and the precordial region. The pain had become more severe during the 12 months preceding examination, and was aggravated by coughing and straining.

His past medical history disclosed no significant features. Physical examination revealed tenderness on deep palpation over the lumbar spine and left flank areas. There was a moderate amount of spasm over the lumbar paravertebral muscles. The straight leg raising test was restricted bilaterally, more so on the left than on the right. The deep tendon reflexes were hyperactive throughout. Rectal examination showed diffuse enlargement of the prostate gland.

Laboratory examinations revealed the following values: Hemoglobin 15 Gm. per 100 cc.; leucocytes, 8,500 per cu. mm. The urinalysis showed a specific gravity of 1.020, and the reaction was 5.5. Tests for albumin and sugar were negative, as were blood serological tests for syphilis. Roentgenograms of the chest were reported as being within normal limits, while those of the



Figure 2.

dorsal and lumbar spine indicated hypertrophic arthritis and a slightly narrowed intervetebral disc space between the fourth and fifth lumbar vertebrae. The urologic consultant reported a normal genito-urinary

tract. The patient was advised to follow a regime of conservative therapy, and to return for hospitalization and further studies if the symptoms persisted.

On March 28, 1950, he was admitted to the University Hospital, complaining of increased pain in the low back. At that time, there were vague symptoms referable to the gastro-intestinal tract, namely, constipation, loss of appetite and gaseous indigestion. Physical examination revealed increased tenderness of the dorso-lumbar area, slightly to the left of the midline, and associated spasm of the paravertebral muscles. The straight leg raising test was still restricted bilaterally, and the deep tendon reflexes were hyperactive in the lower extremities. On one occasion, a positive Babinski sign was recorded on the right side.

Laboratory examinations revealed the following values: Hemoglobin, 13.5 Gms. per 100 cc.; erythrocytes, 4,800,000 per cu. mm.; leucocytes, 8,500 per cu. mm., with a normal differential cell count. The urinalysis indicated a specific gravity of 1.014. The reaction was 5.5. There was no albumin or sugar, and the microscopic examination did not disclose any abnormalities. The blood serological tests were negative for syphilis. The spinal fluid was clear and colorless, and under an initial pressure of 120 mm. of water. Jugular compression and release produced a prompt rise and fall in the dynamic system. The Pandy test was one plus positive for globulin, and the total protein was 71 mgm. per 100 cc. Roentgenograms of the chest were again reported normal. Those of the dorsal and lumbar spine showed hypertrophic arthritis. Pantopaque myelographic studies revealed a filling defect between the eleventh and twelfth dorsal vertebrae. (Figure 2.) On April 14, 1950, a laminectomy was performed by members of the Department of Neurosurgery, and a midline herniated disc was removed from the eleventh dorsal interspace. The post-operative course was uneventful, and the patient was discharged on April 11, 1950, with no complaints.

On May 2, 1950, he was again admitted to the University Hospital, complaining of a dull, aching pain arising in the lumbar area and radiating down the posterior aspect of the left thigh to the heel. The physical examination was essentially unchanged from the previous ones, except that the left tendo-Achilles reflex was absent. The significant laboratory examinations revealed the following values: The spinal fluid was xanthochromic and under an initial pressure of 80 mm. of water. Jugular compression and release produced a prompt rise and fall in the dynamic system. The Pandy test was four plus positive for globulin and the total protein was 388 mgm. per 100 cc. Microscopic examination disclosed 75 lymphocytes per cu. mm. The patient was treated symptomatically and responded in a satisfactory manner. He was discharged on May 16, 1950. Follow-up information reveals that although the patient has returned to work, he is still experiencing some discomfort in the dorso-lumbar area and left lower extremity.

DISCUSSION

Two cases of proven thoracic intervertebral disc herniations are presented. This condition, although relatively uncommon, probably occurs more frequently than was formerly thought. In the series reported by Love and Kiefer, the incidence of occurrence was 0.2 to 0.3 per cent of all disc cases.

The diagnosis of herniated intervertebral disc should be suspected in all cases presenting symp-

toms of spinal cord or root involvement which are of a bizarre and progressive nature and may require confirmation by detailed studies, including myelography and subsequent laminectomy. Young has attempted to define three syndromes which are dependent upon the location of the disc: first, those cases of the upper dorsal region which are characterized as being clinically similar to cervical discs; second, those cases of the mid-dorsal region which evidence segmental radicular pain in the involved dermatomes and which in the past have often been called pleurodynia, intercostal neuralgia, arthritis, neuritis, and fibrositis; third, cases involving the lower dorsal region, characterized by atypical symptoms, referable to the abdominal viscera, flanks, and inguinal regions.

Love and Kiefer have emphasized the frequency of mid-line herniations (14 out of 17 cases) and the variability of occurrence in regard to age, sex, occupation and possible precipitating factors. These authors were unable to define any typical pattern of signs and symptoms such as is seen in cervical and lumbar disc herniations.

SUMMARY

The two instances reported in this paper are consistent with the experience of previous authors, in that the signs and symptoms were very bizarre. Both cases presented mid-line herniations. There was no clearly defined history of preceding trauma, and finally, there was evidence of some residual manifestations after surgical therapy was instituted. The prognosis of these cases following surgical therapy seemed to depend to a considerable degree upon the amount of damage already present in the spinal cord.

BIBLIOGRAPHY

1. Bradford, F. K.; and Spurling, R. G.: *The Intervertebral Disc*, Charles C Thomas, Springfield, Ill., pp. 164-166, 1947.
 2. Young, J. H.: Cervical and thoracic intervertebral disc disease. *M. J. Australia*, 2:833-838 (Dec. 14) 1946.
 3. Love, J. G.; and Kiefer, E. J.: Root pain and paraplegia due to protrusions of thoracic intervertebral discs. *J. Neurosurg.* 62-69 (January) 1950.
 4. Haley, J. C.; and Perry, J. H.: Protrusions of intervertebral discs. *Am. J. Surg.* 80:394-404 (October) 1950.
- Figure 1. Pantopaque myelogram, showing defect in the opaque column at D-8, D-9 level. The patient is in the Trendelenburg position; the dye has been introduced in the lumbar thecal sac.
- Figure 2. Pantopaque myelogram, demonstrating a filling defect of the dye column at D-11, D-12 level. The patient is in the Trendelenburg position; the dye has been introduced in the lumbar thecal sac.

THE MANAGEMENT OF PATIENTS WHOSE HEARING LOSS IS DUE TO OTOSCLEROSIS

CLAIR M. KOS, M.D.

IOWA CITY

OTOSCLEROSIS is an osteodystrophy peculiar to the human temporal bone. It consists of characteristic histological alterations at specific sites such as the oval (Figure 1) and round window, base of the cochlea, the internal auditory meatus (Figure 2) and the semicircular canals.¹ It may cause a hearing loss of considerable magnitude. If oto-

From the Department of Otolaryngology and Oral Surgery, University Hospitals, Iowa City.



Figure 1. Arrow indicates site of lesion.



Figure 2. Arrow indicates site of lesion.

sclerosis affects the oval window causing stapedial fixation while the inner ear and nerve function remain normal, or near normal, a conduction deafness results. This conduction deafness is frequently complicated by an inner ear or nerve impairment of hearing about which little is known. So-called nerve impairment may be due to invasion of the inner ear by the otosclerotic process or result from unrelated degeneration processes.

Otosclerosis accounts for an appreciable incidence of progressive conduction deafness in adult life. It is said to affect approximately 1,500,000 people in the United States. Other estimates place the figure percentage-wise at 0.5 to 1.0 per cent of the population.² It has been observed in all civilized countries and it has been noted to be relatively rare among Negroes.³

Females are affected more frequently than

an irregular dominant with variation in penetrance from two sources, one hereditary, one environmental.⁶ Hence it may be sex influenced, but not sex linked. Inheritance of otosclerosis is difficult to trace for the clinical manifestations apparently skip generations. Histological evidence of otosclerosis has been observed frequently in those who never had hearing loss during life.⁷ Thus the

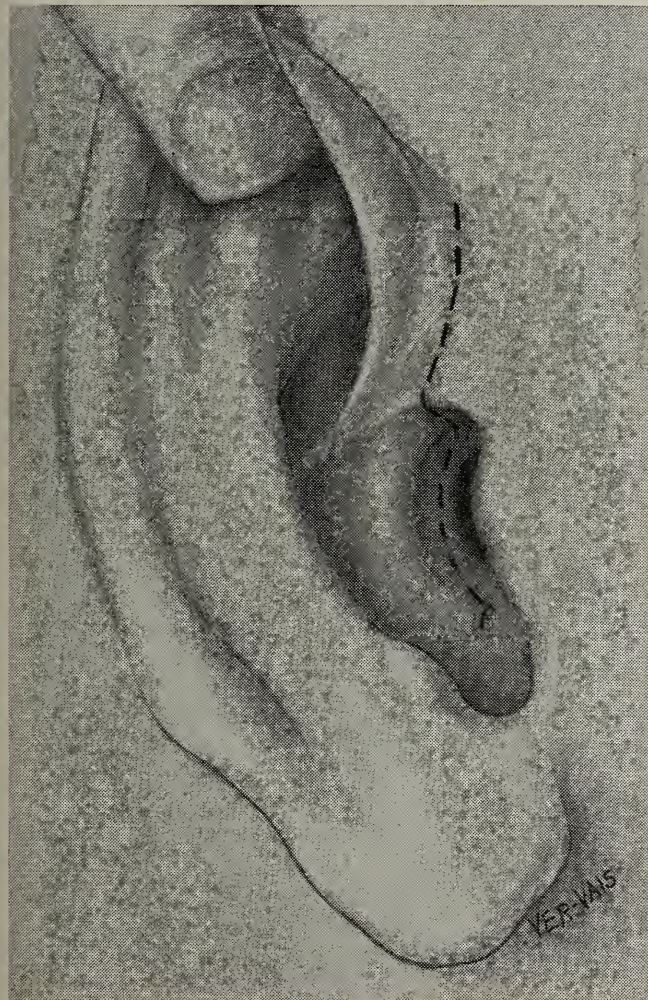


Figure 3.

males. Results of studies of this subject indicate the proportion to range from 2:1 to 8:1.^{4,5}

It seems that there is an hereditary factor involved in the transmission of otosclerosis through successive generations, which does not conform consistently to the pattern of heredity influenced by dominant and recessive sex linked characteristics. According to Amidon otosclerosis may be

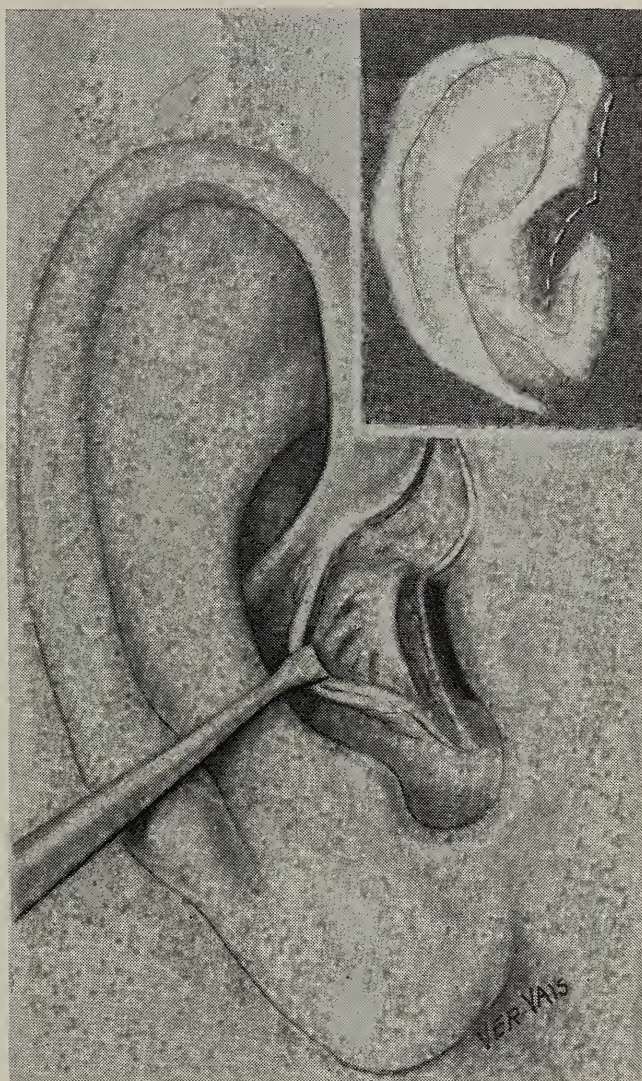


Figure 4.

incidence of histological otosclerosis is probably much greater than the clinical manifestations would indicate. It is the experience of most investigators in this field that a family history of hearing loss is found in not much more than 50 per cent of inquiries.

Occasionally one is impressed with the influence pregnancy seems to exert over the occurrence and progress of clinical otosclerosis. This relationship is difficult to evaluate in as much as the hearing loss usually becomes evident during the most active child bearing span of life and the possibility of coincidence must be considered. Otosclerosis is not consistently affected by pregnancy.² Certainly there are a large number of females whose clinical otosclerosis could not

possibly be traced to an association with pregnancy.

Frequent attempts have been made to establish metabolic and endocrine disturbances as the basis for otosclerosis. That certain deficiencies may constitute an appreciable consideration in some instances highly suggestive, but this concept lacks confirmation according to the currently known methods of measurements.^{8, 9}

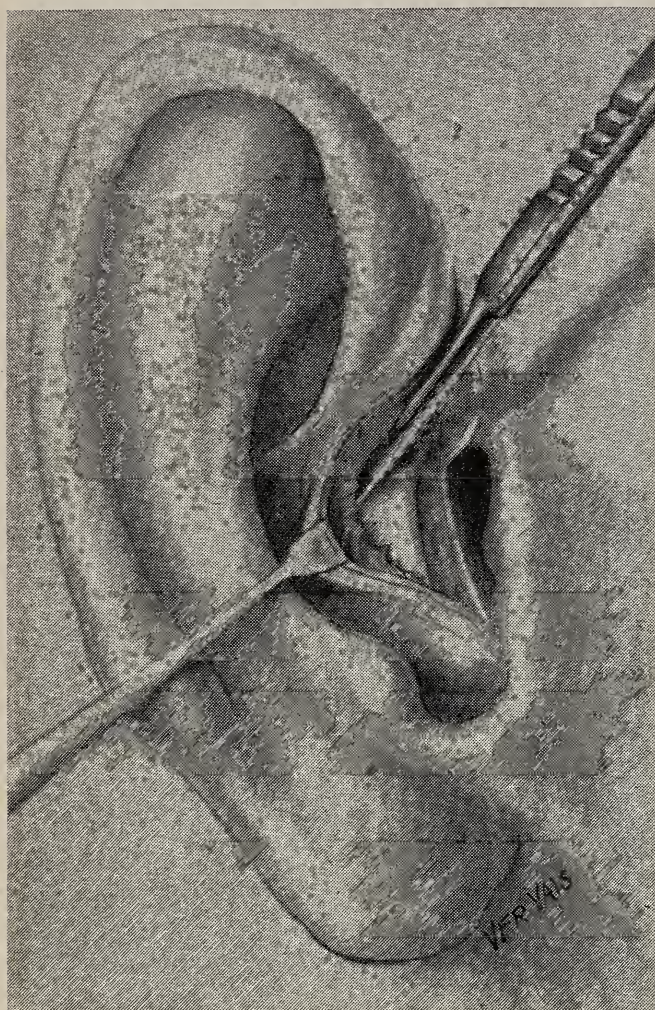


Figure 5.

Nothing is known to medical science as therapy for the hearing loss due to otosclerosis except fenestration surgery and the use of a hearing aid. Neither of these corrective measures beneficially or adversely affect the otosclerotic process directly. They only afford relief, when adaptable, from the hearing loss which results from otosclerosis. The extent to which the hearing loss may be neutralized can be measured for either alternative. It is the physician's responsibility to inform the patient whether a hearing aid, lip reading and speech training, if indicated, are the only solutions to the hearing problem or whether a choice may be made between the hearing aid and the fenestration operation. The patient whose hearing loss is most effectively improved by using a hearing aid, also, with few exceptions, is the

most suitable candidate for fenestration surgery. One need not indulge in a discussion with the patient concerning the merits or faults of one choice over the other. This is a decision only the patient may make accurately and satisfactorily. Approximately 80 per cent of the patients who seek consultation with the doctor about the fenestration operation have worn or are wearing a hearing aid and consequently already have much of the experience they need for reaching a decision. The prospects of the patient achieving practicable serviceable hearing as the result of fenestration surgery must be discussed frankly and thoroughly so that no misunderstanding need arise subsequently.

The patient's chance of securing a favorable



Figure 6.

hearing improvement by fenestration surgery depends upon three important factors: Selection, surgical skill and postoperative management.

The most common cause of failure to restore hearing by fenestration surgery is found in the reliability of the criteria for selection. Accurate selection of patients for fenestration surgery is entirely dependent on the ability to recognize

certain characteristic features which, in combination, comprise the clinical entity of otosclerosis. Suitability of a patient for this procedure may be determined rather easily by demonstrating the following clinical features.

1. Bilateral hearing loss in which air conduction thresholds exceed normal or near normal bone conduction thresholds by more than 30 db¹⁰

2. Tympanic membranes are normal.

3. Hearing is serviceable while using a telephone; seems to be appreciably improved in a noisy environment; and is adequately clear with a hearing aid.

4. Roentgenograms of the temporal bones show normal pneumatization.

5. Hearing loss occurs in the late 'teens or early

20's, or even later in life and is not directly related to systemic or local infection.

6. Family history of hearing loss.

7. The hearing loss at sometime during its course is described as progressive, whether or not it is related to pregnancy.

Except for the classical pattern of hearing loss as determined by accurate hearing tests, the absence or variation of one or more of these criteria need not be cause for doubting the diagnosis or hesitating to advise the patient of his suitability for the operation.

Precise audiometry is the hub around which all other considerations of clinical otosclerosis may be grouped. The degree of success to be expected from the operation correlates very closely with the audiometric features of the hearing loss.¹⁰ Several

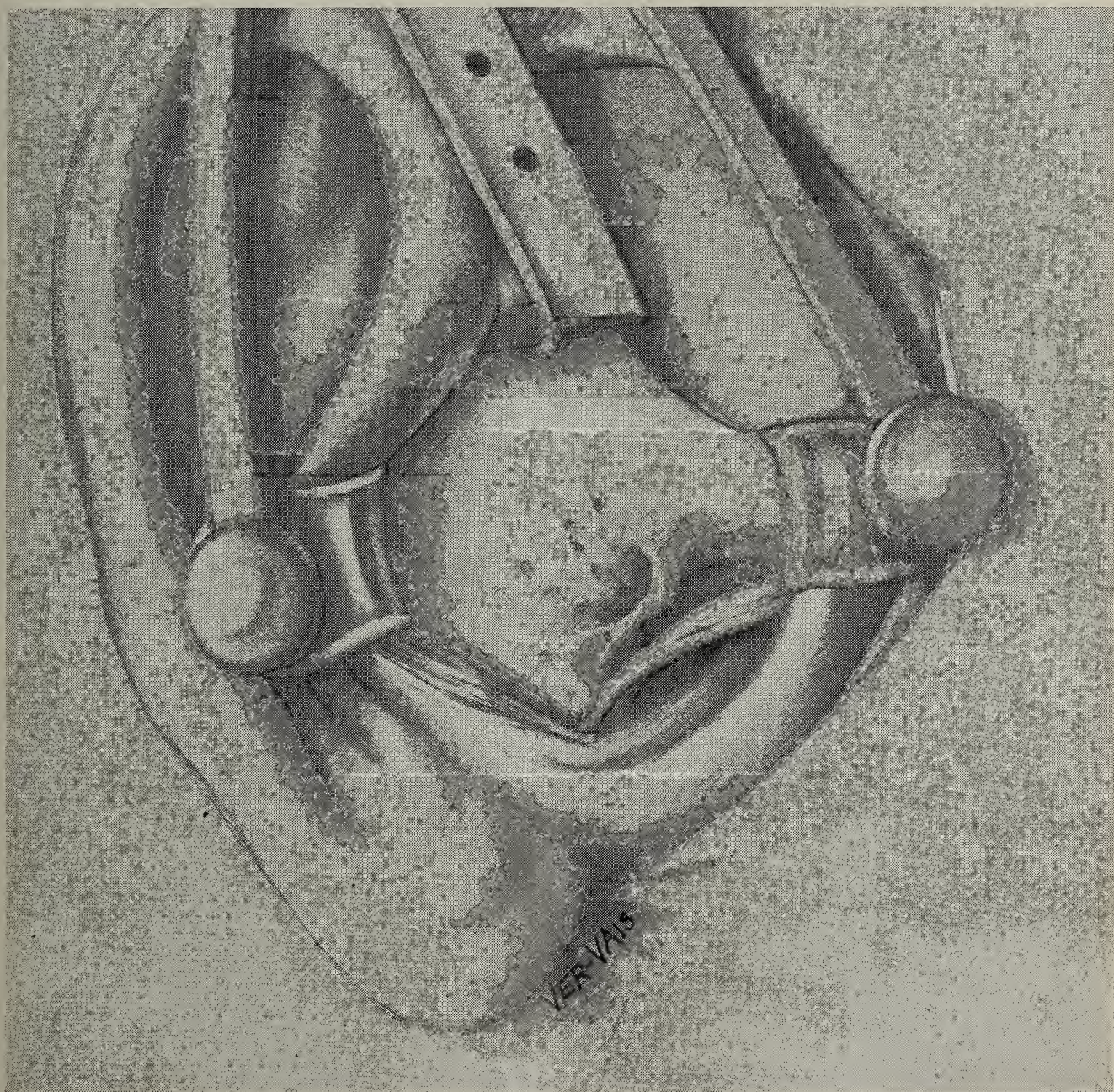


Figure 7.

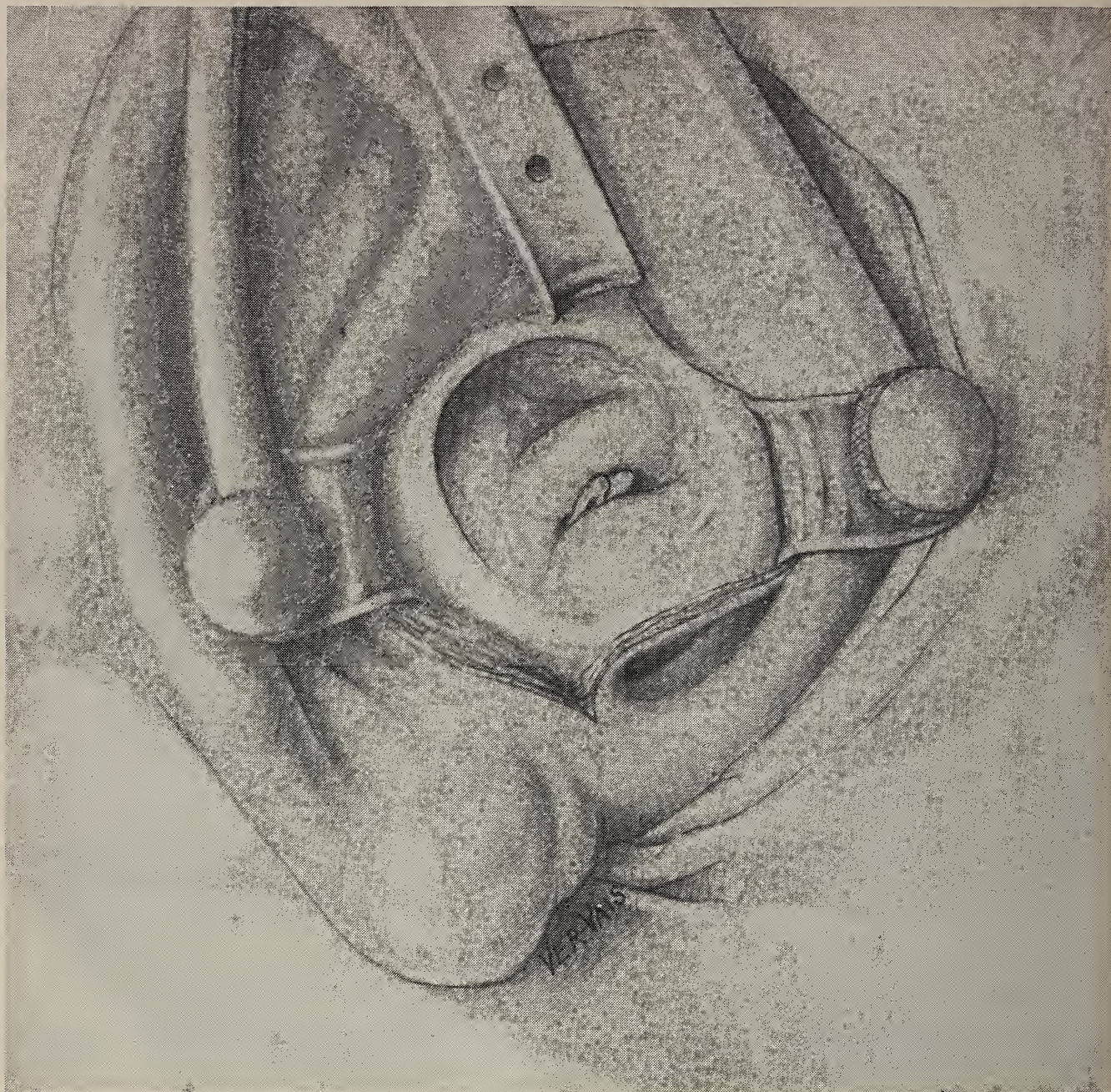


Figure 8.

years invested in extensive study at the University of Iowa revealed certain of these audiometric features to be consistently dependable for the prediction of surgical results. The prediction equation which was devised following this study is continuing to forecast with great accuracy the hearing levels that may be expected for the fenestration operation.¹¹

Surgical skill is in exceptionally great demand for the achievement of favorable results from fenestration surgery. Each step must be executed with meticulous perfection and completed with exacting attention to minute detail before continuing to the next step. This is also true of other operations, but in few other surgical procedures is the ultimate result so seriously influenced by precision and dexterity. The reason for this is that in

most operations the natural processes of healing compensate for minor technical errors.

Paradoxically, in this operation an opening is made in the semicircular canal with the expectation of inhibiting the healing processes which would otherwise conspire to defeat the surgeon. The only hope of success is dependent on a technic so flawless that osteogenic or fibrotic healing will be limited so that the artificial window will remain open.

Other than skill, patience is required of the surgeon. This kind of surgery should never be undertaken with a time pressing schedule to be followed. Unnecessary and avoidable injuries may be committed under the tension of haste, during a split second of distraction or a moment of inattention to the task at hand. The results are

proportionate to the influence such factors exert on the temperament of the operator. Fortunately such injuries as would preclude the success of the operation are rare, but always must be considered in any calculation dealing with ultimate hearing results.

The operation is performed in three phases. The first two are really preparatory to the third—the creation of the fenestra.

PHASE I—MASTOIDECTOMY

The cortex of the mastoid bone is exposed by endaural incisions which are almost entirely extra-cartilaginous. (Figures 3, 4, 5, 6) These incisions permit unusual mobilization of the auricle so that suitable retractors may stretch the wound for adequate space in which to work.

(Figure 7) Once the desired exposure is obtained, the cortex and mastoid cell partitions are removed by a cutting burr driven by a high speed electric motor. In the process, the outline of the sigmoid sinus is uncovered, the roof of the mastoid underlying the temporal lobe of the brain is exposed, the three semicircular canals are delineated and the head of the malleus and the short process of the incus are brought into view. (Figure 8)

PHASE II—PREPARING THE TYMPANOMEATAL MEMBRANE

This is a delicate procedure because of the extreme thinness of the skin lining the external auditory canal from which the membrane will be created. The protective covering which this tissue

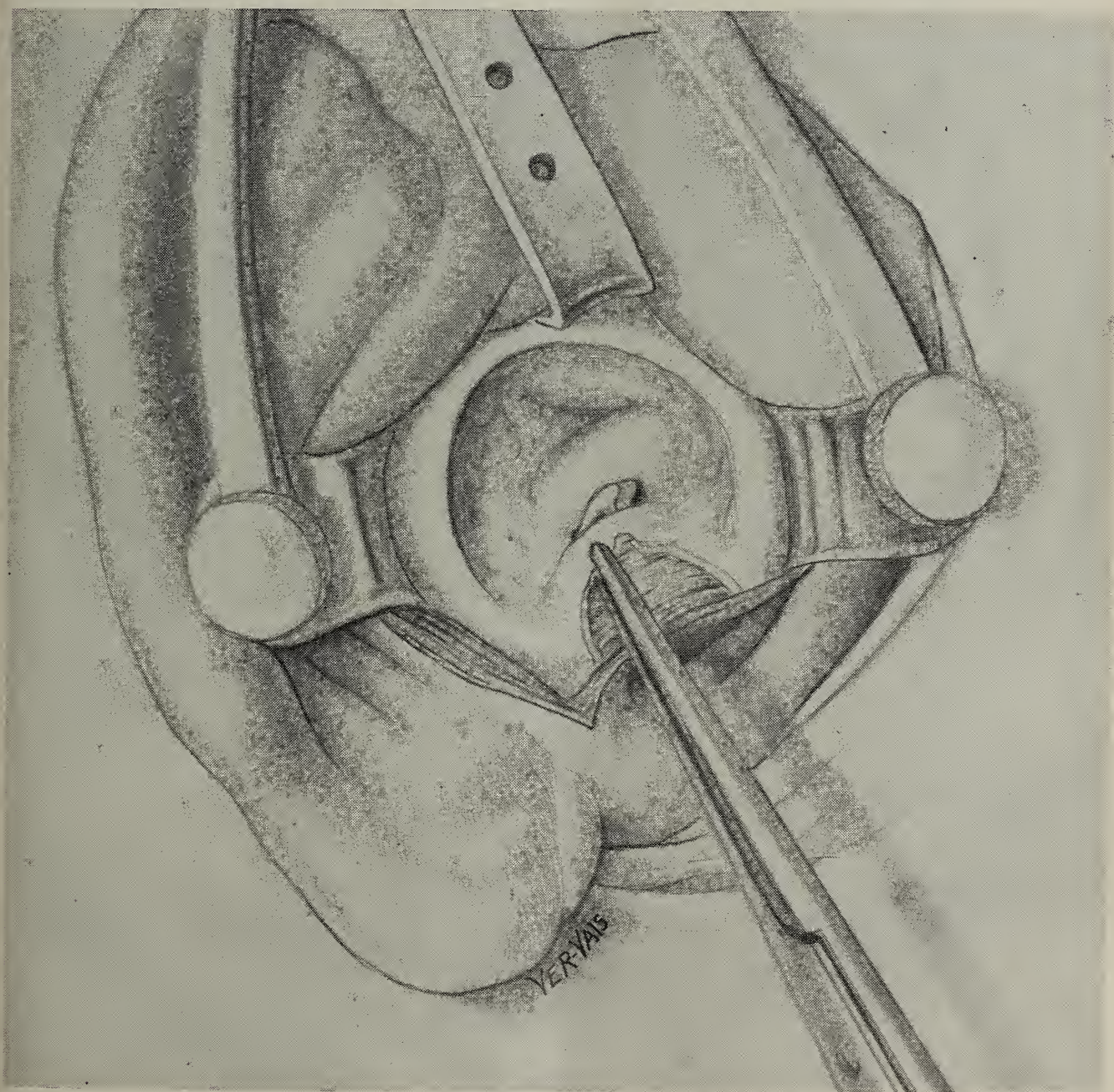


Figure 9.

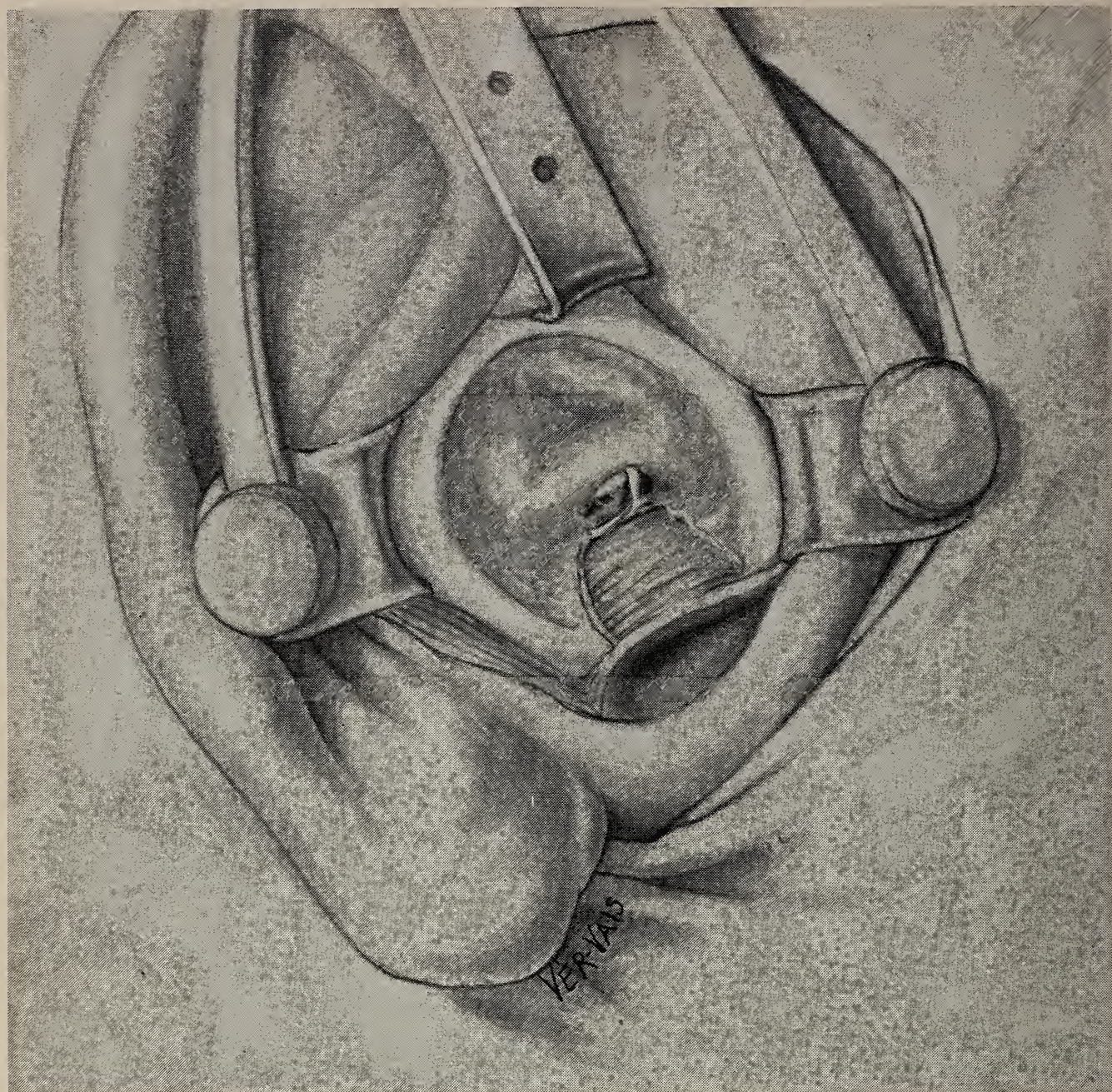


Figure 10.

will provide to the exposed membranous semicircular canal when the fenestra is made is secure only if there are no tears in it. It also must be free of bone dust and bone chips, especially in that area of the membrane which is to be placed directly over the newly created fenestra. In order to fashion the tympanomeatal membrane the postero-superior section of the bony external auditory canal must be removed. (Figure 9) This step prepares for the conversion of the external auditory canal and the mastoid cavity into one. When the incus and the head of the malleus are removed, there is adequate access to the anterior extremity of the horizontal semicircular canal through which the new opening is to be established. (Figures 10, 11, 12)

Phases I and II have been completed when

there is sufficient accessibility to the anterior extremity of the horizontal semicircular canal and after the creation of the tympanomeatal flap which when swung into place will cover the new fenestra. (Figure 13)

PHASE III—CREATION OF THE FENESTRA

This phase of the surgical procedure is occupied with the making of a window through that area of bone which overlies the ampulla of the horizontal semicircular canal. Three layers of bone are encountered: 1. periosteal layer, which is irregular, often hard and brittle; 2. enchondral bone which is somewhat softer and slightly orange in color and 3. endosteal bone, which is very thin and the most active of the three layers in the process of healing. Beneath this is the en-

dosteal membrane, very delicate and somewhat opaque. When this is removed the translucent membranous semicircular canal is clearly observed.

The new fenestra is made under magnification of at least $2\frac{1}{2}$ power by burnishing the area to be penetrated with fine polishing burrs. When the edges of the polished area become so thin as to form a dark oval ring approximately $1 \times 1\frac{1}{2}$ mm. in dimension (Figure 14), tiny sharp bone knives are used to etch the outline of the oval until a bony cap is produced, which is then lifted carefully from its bed. The delicate endosteal membrane is removed intact with the cap, thus revealing the membranous semicircular canal at its ampullary end. (Figure 15)

The previously fashioned tympanomeatal mem-

brane is then placed over the new window and soft sponges are laid carefully over this membrane with sufficient pressure to prevent serum and blood from collecting beneath its surface, yet allow for adequate circulation to maintain its vitality. (Figure 13)

The operation is not dangerous to life. The only risk to be considered is the risk that accompanies induced unconsciousness with any anesthesia. Due to the type and method of anesthesia usually used in fenestration surgery, this risk is negligible. There have been no deaths known to be due to or resulting from fenestration surgery, though many thousands of them have been performed during the past 14 years.

Occasionally it may be necessary, at least an act of better judgment, to perform the operation

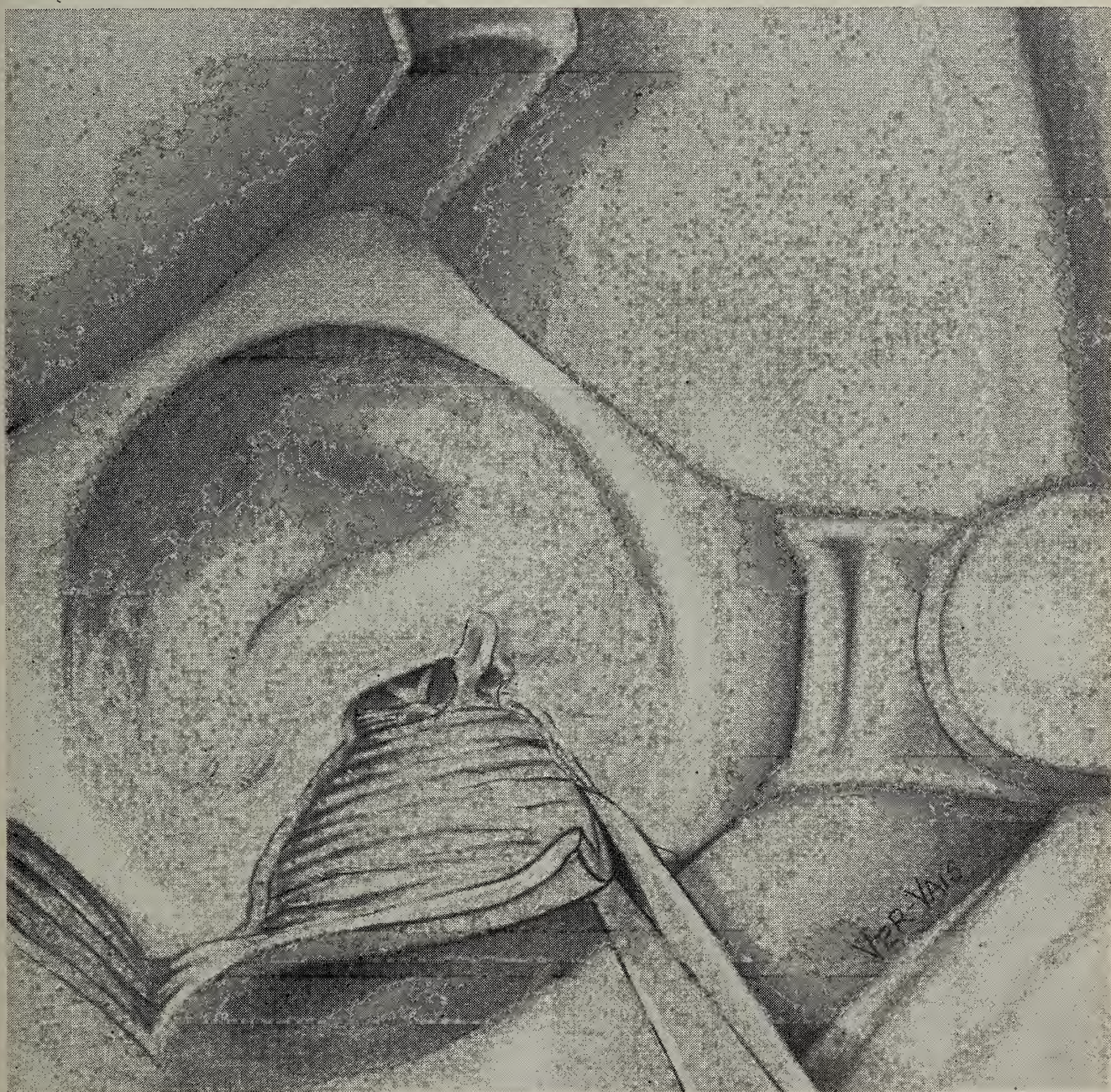


Figure 11.

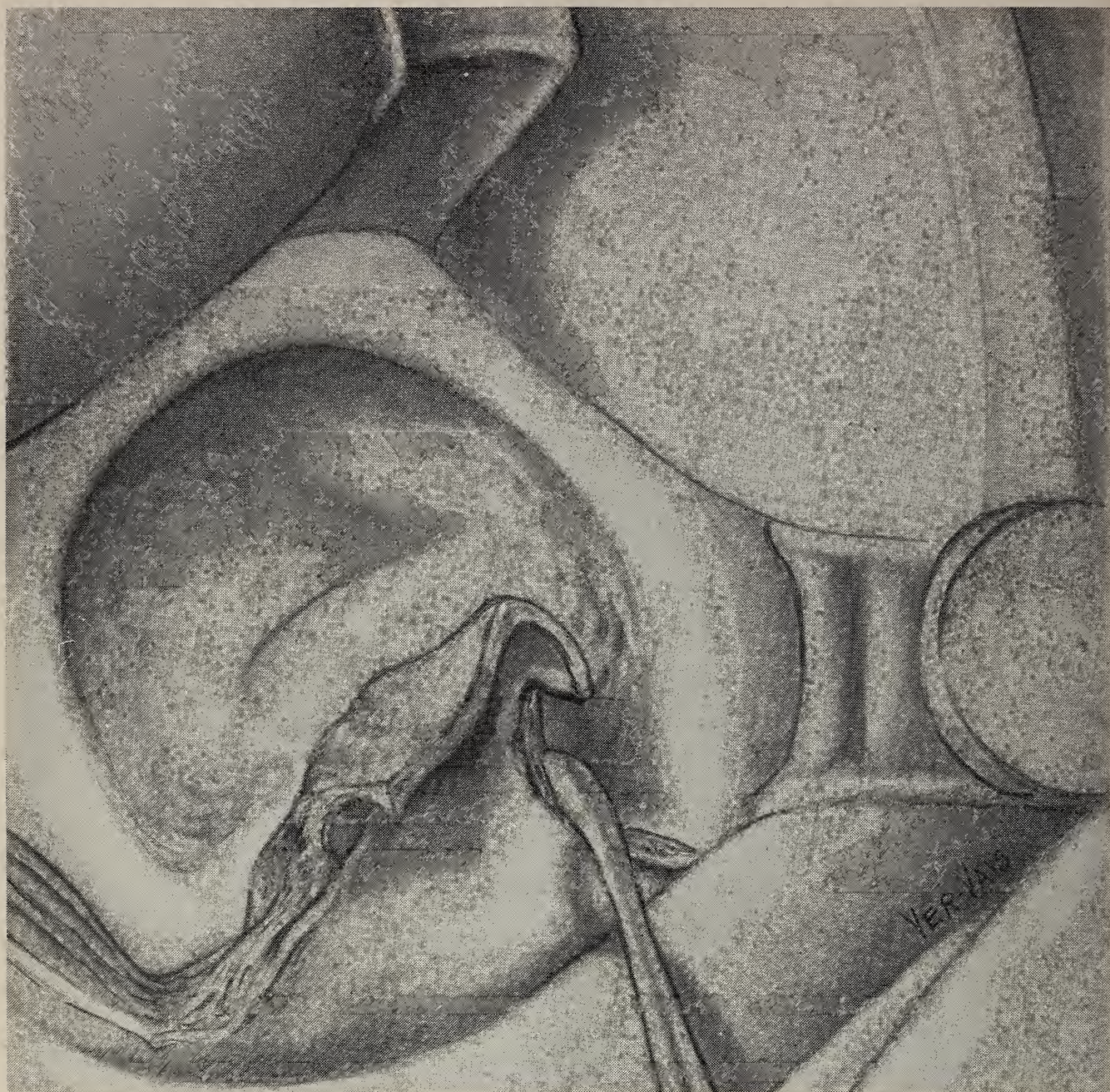


Figure 12.

in two stages (each stage on different occasions) instead of completing the operation on one occasion. The vitality of the tympanomeatal membrane and its continuity may influence this decision. If the membrane should be torn before the fenestra is created it is in the best interest of achieving a successful result to terminate the operation and wait until the membrane heals before exposing the labyrinth. This may take several months so that the interval between the first and second stages may be six to 12 months before serviceable hearing may be restored to the patient.

The author has performed the two stage operation on a series of selected patients for other reasons. The principal disadvantage of this two stage approach is that the patient is subjected to two operations in place of one. Another disad-

vantage is that healing of the tissues following the first stage may be delayed, thus preventing the second stage from being accomplished for longer than the expected time.

It is anticipated that the advantages of the two stage procedure will completely overshadow the disadvantages. As described above, the first two phases of fenestration surgery are essentially preparatory procedures, i.e. 1. providing accessibility to the area in which the fenestra is to be created and 2. preparing a protective covering for the maintenance of a vital labyrinth after it is exposed. The intra-labyrinthine structures are very susceptible to inflammation. Their function is easily destroyed. Yet the only protection from inflammatory irritation during the subsequent period of healing when the entire operation is

done at once is an extremely thin layer of epithelial cells and periosteum in the form of the tympanomeatal membrane. While granulations are relining the mastoid cavity, there is considerable exudative discharge from the ear. These granulations invariably become secondarily infected at some time before complete squamous epitheliation eliminates the discharge. Prior to the cavity becoming completely lined with squamous epithelium, the tympanomeatal membrane is for varying periods bathed in purulent exudate. It remains edematous and the infiltrated inflammation stimulates fibrosis and osteogenesis which may cause closure of the newly created artificial window and consequent loss of serviceable hearing—a result which has been the subject of considerable research in the hope of seeking effective methods of prevention.^{13, 14, 15, 16}

It is not known how much, if any, the exudate which accumulates during the healing processes affects the delicate functional structures within the labyrinth and the ultimate improvement of hearing. It would seem plausible to expect some degree of hearing damage if toxic substances penetrated the tympanomeatal membrane even to a slight degree. Hence it seemed logical to allow the prepared areas to become thoroughly lined with healthy epithelium and then after the cavity had become completely dry, circumferentially incise the epithelium widely around the projected fenestra, elevate it, create the fenestra and replace the elevated flap to approximate its edges with the undisturbed epithelial lining and hold it in place by a suitable pressure dressing. No raw areas are left to be filled by granulations, since none of the tissue has been removed. Only

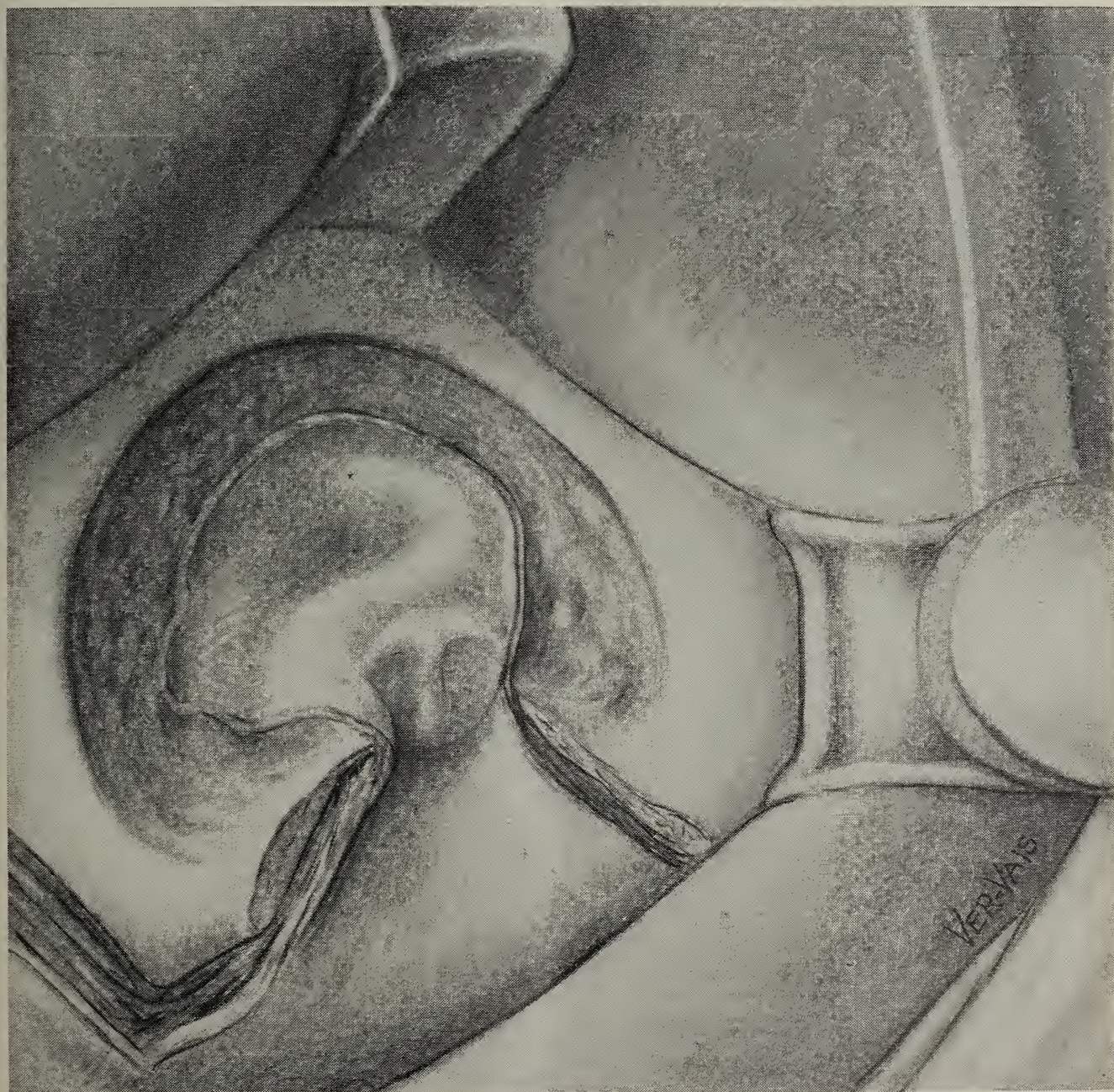


Figure 13.

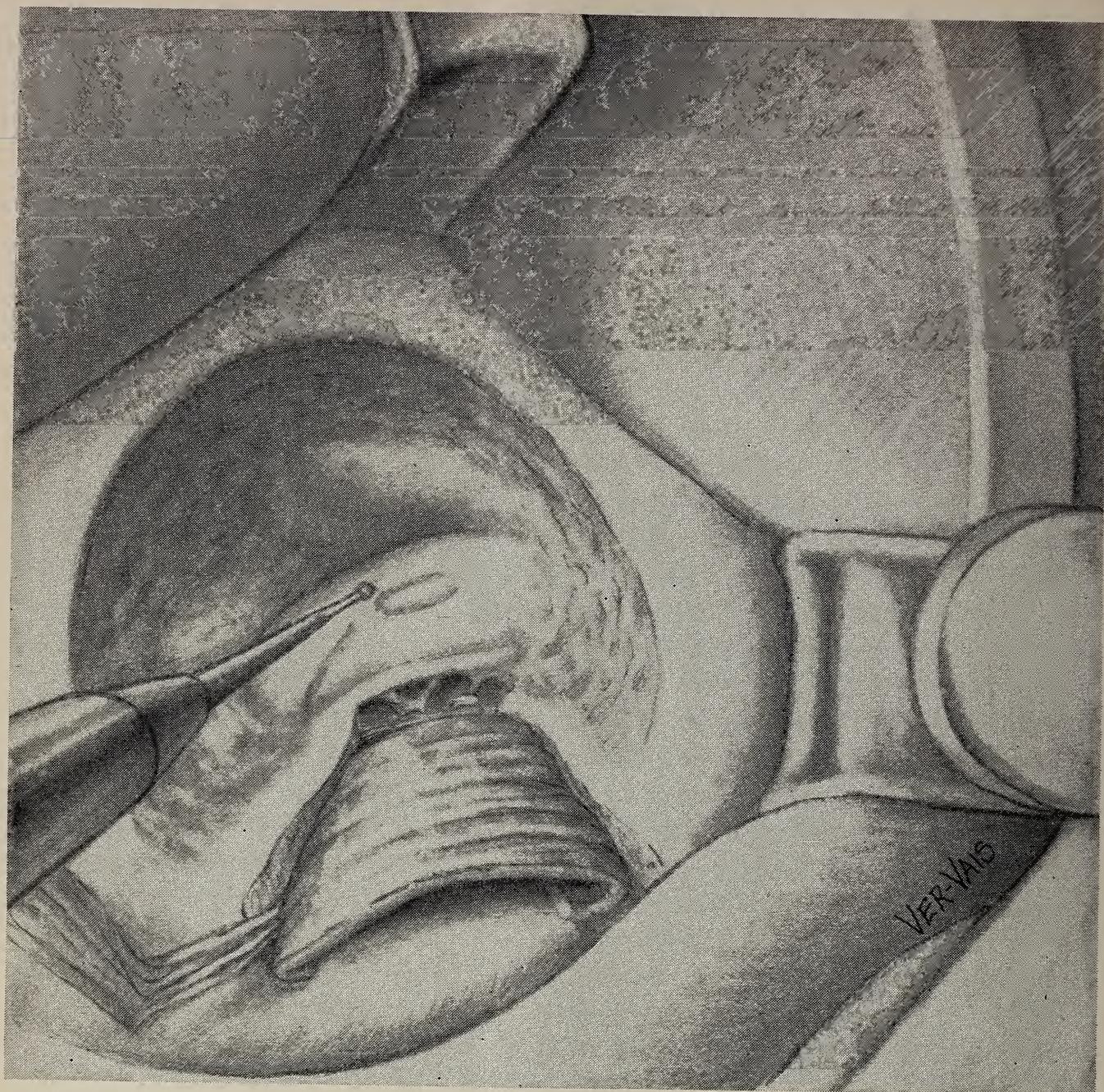


Figure 14.

incision lines are left to heal and this is well advanced within seven to ten days, when the dressing is removed. Consequently there is little if any discharge to accumulate in the cavity to provide culture material for infections, and the labyrinth has not been subjected to unnecessary irritations during the process of healing.

Twenty seven patients particularly selected for the two-stage fenestration operation have been the subjects of postoperative observation for a period of at least six months. This group is too small from which to adduce data of real significance, but preliminary studies suggest that the hearing is better among these patients than is the hearing of those who had the one-stage fenestration operation.

There is little doubt that the postoperative dizziness is considerably less severe and of shorter duration when the fenestration is delayed till the second operation. It was noted that hearing improvement occurred within five to ten days after the second stage while hearing improvement usually does not become evident before the third week when the two stages are performed as one operation.

Postoperative care of the ear begins on the sixth day following the operation at which time the superficial dressings are removed and the wound inspected. In the meantime the patient is able to sit up the first postoperative day and begins walking the second postoperative day. By the time the first ear dressing is reached the patient has overcome most of the unsteadiness

he experienced the first few postoperative days and he is able to ambulate quite actively.

Following the first dressing on the sixth day, the cavity is kept clean by daily aspiration of serum, blood clots and fibrin. (Figures 16, 17) On the tenth day the gauze sponges overlying the tympanomeatal membrane are removed. This is often accompanied by a disturbance of equilibrium from which the patient recovers within 24 hours. It is not severe enough to prevent the patient being discharged from the hospital the same day. After discharge from the hospital, the patient is seen at intervals varying with the course of healing within the cavity. (Figure 18) Usually the visits to the office are made on alternate days for one week—then at weekly intervals for three weeks, after which the ear is inspected

on occasions determined by the progress of epitheliation as noted during each visit. The cavity is usually completely epitheliated and dry within three months. All patients are requested to return semiannually thereafter for observation.

The first postoperation audiogram is recorded one week following discharge from the hospital and a test is given on each of the occasions the patient returns for care or observation. In this manner considerable data concerning results may be obtained from each patient. These data gathered from 116 patients whose fenestration operation took place prior to 1949 were recently analyzed by biometrical methods which revealed that according to the audiometric criteria for selection used and the operative technic employed, a patient's hearing improvement could be

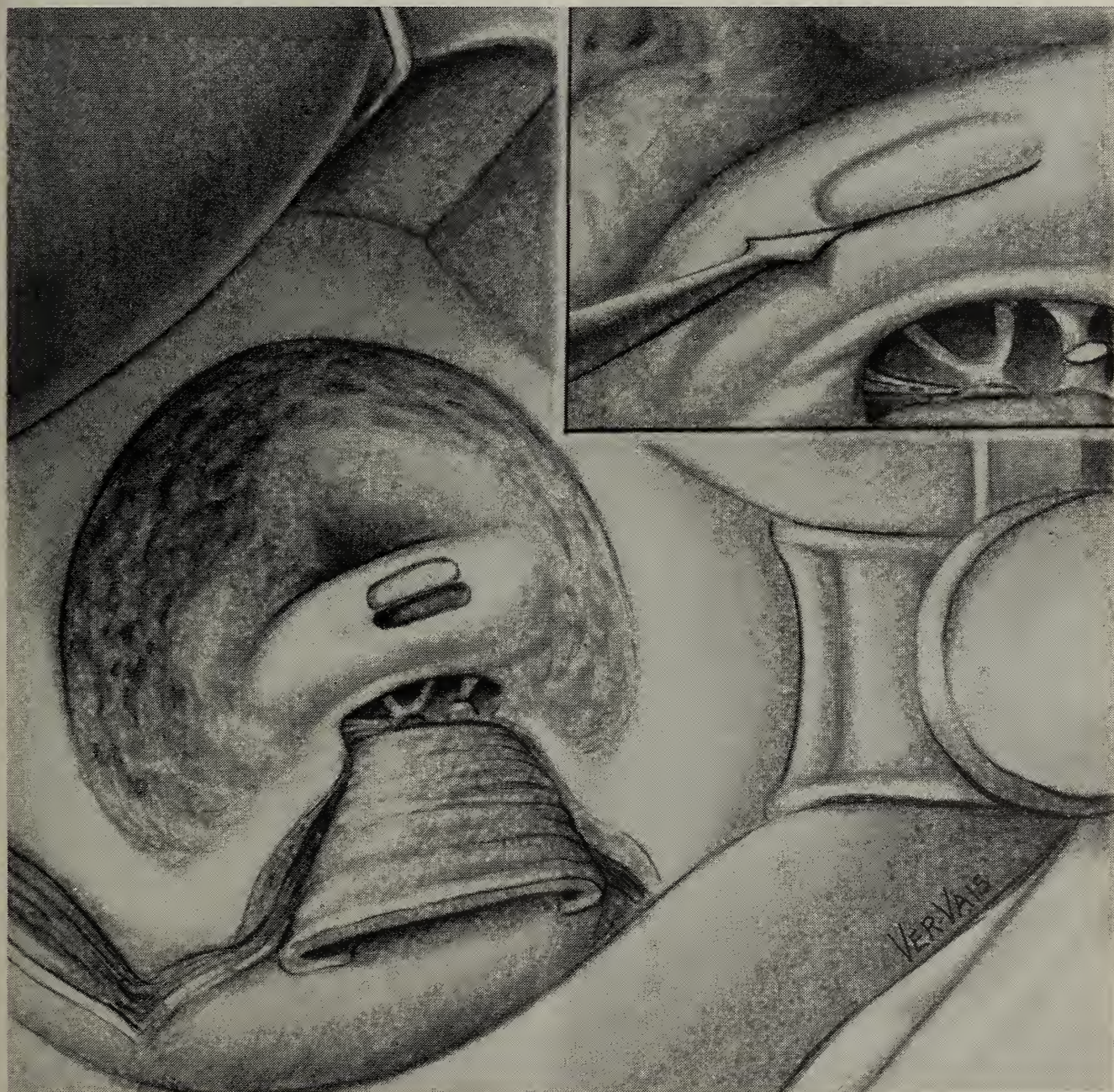


Figure 15.

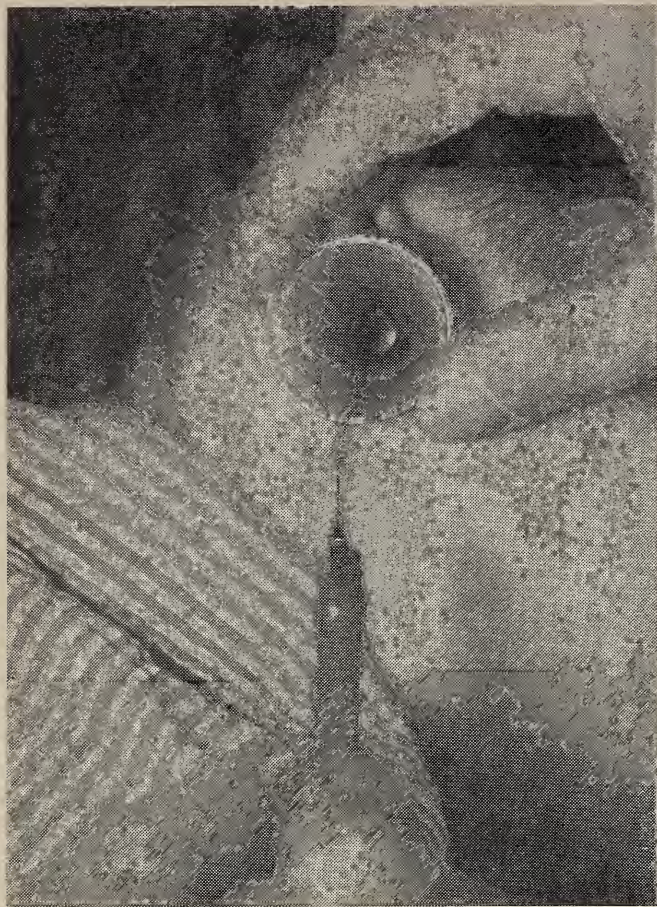
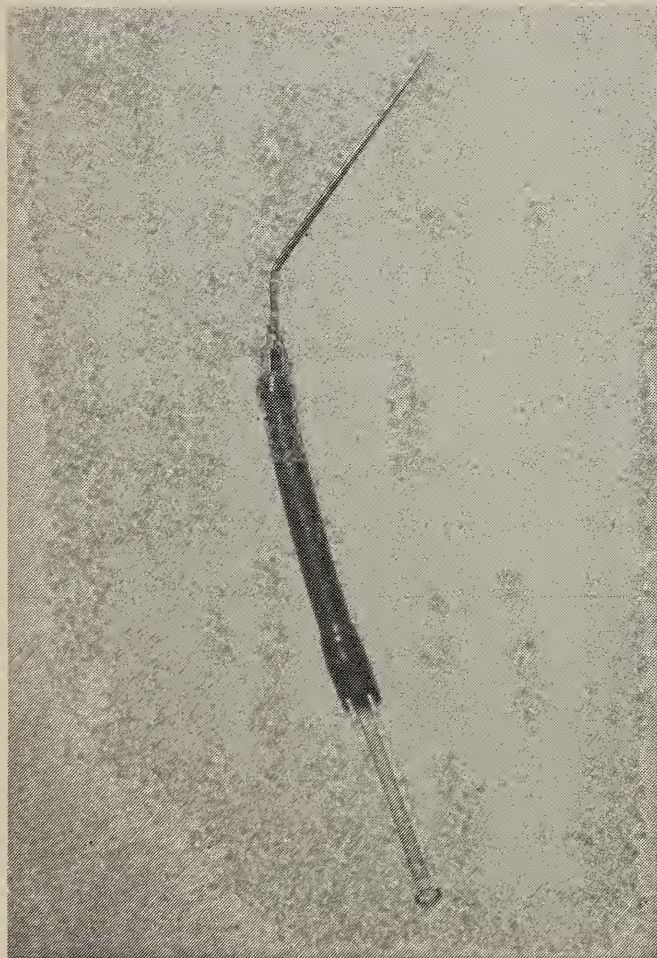


Figure 16.



predicted with 96 per cent accuracy.¹¹ However, the permanency of hearing improvement following fenestration surgery may be altered by the ravages of time. Usually the period of uncertainty spans the first two years following surgery. Within the first three months fibrotic closure of the newly created fenestra may occur. The gravity of this possibility has been considerably lessened due to improvements in surgical technic and postoperative care. Closure of the fenestra due to osteogenesis also is now a negligible cause



Figure 18. Appearance of the operated ear two weeks postoperatively.

of eventual postoperative hearing impairment because of advancements made in the technical execution of the surgical procedure.¹⁷ Fibrosis and osteogenesis account for failures to sustain hearing improvement in about two per cent of the patients who have had the fenestration operation. This incidence is almost always limited to those under 30 years of age. There has been no evidence of closure among those over 35 years of age in the patients thus far evaluated. About three in 100 fail to retain hearing improvement permanently because of progressive impairment of inner ear function.



Figure 17. Tympanomeatal aspirator, made of 17 gauge spinal puncture needle attached to length of hard rubber tubing and glass adapter tube.

It has been suggested that fenestration surgery inhibits the progress of inner ear deafness. Such evidence has not been confirmed by the author, although it is apparent that the improvement of hearing resulting from fenestration surgery serves to *delay* the effect of inner ear depression of hearing. The restoration of hearing by fenestration surgery will continue only so long as the neural elements of the hearing mechanism will permit the patient to hear, provided the fenestra remains patent.

Until only a short time ago the medical profession had no therapeutic means of restoring the hearing of those whose loss resulted from otosclerosis. The fenestration operation is a relatively safe procedure and when judiciously advised offers escape from social and economic isolation due to hearing impairment. Today many of these people may look forward to participating in the activities associated with the world of sound with a high level of confidence, provided they are advised according to the most exacting standards of selection.

BIBLIOGRAPHY

1. Lempert, J.; and Wolff, D.: Otosclerosis: theory of its origin and development. *Arch. Otolaryng.*, **50**:115-155 (August) 1949.
2. Shambaugh, Jr., G. E.: Fenestration operation for otosclerosis. *Acta otolaryng.*, Suppl. **79**:10-100, 1949.
3. Bunch, C. C.: Some observations on clinical otosclerosis. *Ann. Otol. Rhin. & Laryng.*, **43**:344-366 (June) 1934.
4. Nager, F. R.: *Medicine of the Ear*, Section on Otosclerosis, Edited by E. P. Fowler. New York, Thomas Nelson & Sons, 1939.
5. Davenport, C. B. et al.: Genetic factors in otosclerosis. *Arch. Otolaryng.*, **17**:135-170 (February) 1933.
6. Amidon, E. W.: Heredity and environment in otosclerosis. *J. of Hered.*, **39**:223-227 (August) 1948.
7. Guild, S. R.: Histologic otosclerosis. *Ann. Otol. Rhin. & Laryng.*, **53**:246-266 (June) 1944.
8. Fowler, E. P.: Calcium, phosphorus and cholesterol in otosclerosis. *Tr. Am. Otol. Soc.*, **20**:39-47, 1930.
9. Guggenheim, L. K.: *Otosclerosis*. St. Louis, The Author, 1935.
10. Kos, C. M.; and Reger, S. N.: Selection of patients for fenestration Surgery. *Archiv. Otolaryng.*, **51**:707-723 (May) 1950.
11. Kos, C. M.: Statistical study of pure tone audiometry in relation to fenestration operation. *Arch. Otolaryng.*, **54**:367-377 (October) 1951.
12. Lempert, J.: Lempert fenestra nov-ovalis for the restoration of practical unaided hearing in clinical otosclerosis: its present status. *Suppl. Trans. Amer. Acad. Oph. & Oto.*, pp. 12-31 (November-December) 1949.
13. Lempert, J.: Bone dust free lempert fenestra nov-ovalis. *Arch. Otol.*, **47**:280-288 (March) 1948.
14. Lindsay, J. R.: Healing of experimental labyrinthine fistulas: further observations. *Arch. Otol.*, **46**:584-600 (November) 1947.
15. Fowler, Jr., E. P.: Closure of operative fenestrae in the labyrinth (experiments on monkeys). *Arch. Otol.*, **34**:209-224 (August) 1941.
16. Lempert, J.; Meltzer, P.; Schall, L.; and Wolff, D.: Osteogenesis following fenestration of the vestibular labyrinth of the rhesus monkey. *Arch. Otol.*, **46**:512-527 (October) 1947.
17. Lempert, J.: Permanently patent fenestra nov-ovalis. *Trans. Amer. Laryng., Rhino. & Otol. Soc. Inc.*, pp. 56-73, 1951.

Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 505 Bankers Trust Bldg., Des Moines 9, Iowa.

THE TREATMENT OF SUBACUTE BACTERIAL ENDOCARDITIS

LEWIS E. JANUARY, M.D.

AND

ERNEST O. THEILEN, M.D.

IOWA CITY

It has been said recently that the new treatment of bacterial endocarditis is, barring insulin, probably the greatest therapeutic triumph of the century in internal medicine.¹ Certainly it is now the most common form of heart disease which can be cured. The availability of antibiotic drugs affords the theoretical possibility of curing at least 95 per cent of the cases. Despite such optimism, however, this figure is not approached in practice and therapeutic failures remain disturbingly high.

Evaluation of the experience with this disease is difficult because in many reports recovery refers only to cure of the infection itself, while in others to actual clinical cures. In general, since the introduction of penicillin, reports disclose that recovery from the infection occurs in approximately 65 to 80 per cent of the cases.²⁻¹⁰ The clinical cure rate is usually less, although Friedberg¹¹ recently reported a cure rate of 66.2 per cent in 148 cases treated between 1944 and 1949.

We have recently reviewed the experience with this disease since 1924 at the State University of Iowa Hospitals, and as an introduction to a discussion of therapy, desire to emphasize several important facts revealed in the survey. Table I represents the recovery rates in the 196 cases over the 25 year period. It is evident that great progress has been made since the 1924-1939 period previously reported by Hardin,¹² but even so, in the antibiotic treated group from 1944-1949, where 74.6 per cent of the patients were cured of their infections, only 35.6 per cent of them were still living in 1950. It is distressing to find that while only 15 (25.4 per cent) of the 59 cases died of persistent infection, 20 (33.9 per cent) of the cured group subsequently succumbed before the end of the period of the survey. Seventeen of this group were dead within 11 months after bacteriologic cure.

The underlying heart disease in 147 (75.0 per cent) of the cases was recognized as either acquired valvular disease from rheumatic fever or congenital cardiovascular abnormalities. In 160 cases the infection was caused by the alpha hemolytic *Streptococcus*. In Table II it can be seen that in 32 (27.6 per cent) of 116 cases from 1940-1949 it was possible because of the time relationship to establish the probable precipitating cause of the infection.

Many of the patients in the antibiotic treated group were critically ill on admission. Table III,

From the Department of Internal Medicine, College of Medicine, State University of Iowa, Iowa City. Presented at the One Hundredth Session, Iowa State Medical Society, Sioux City, April 23-25, 1952.

| | No. of Cases | Cured | Not Cured | Cured Cases Dead of Other Causes | Still Living | Fate Unknown |
|----------------------------------|--------------|---------------|------------|----------------------------------|---------------|--------------|
| 1924-1939 No specific therapy | 80 | 0 | 80 | | 0 | |
| 1940-1944 Sulfonamides Alone | 56 | 1 (3.5%) | 55 (96.5%) | | 1 | |
| Ligation P.D.A.* | 1 | 1 | | | 1 | |
| 1944-1949 Antibiotics Alone | 58 | 43 (74.6%) | 15 (25.4%) | 20 (33.9%) | 20 (35.6%) | 3 (5.1%) |
| Ligation P.D.A.* | 1 | 1 | | | 1 | |

Table 1. Results of Treatment 1924-1949.

which shows the average known duration of illness in weeks of three groups of these patients, suggests that the time from the onset of the disease

TABLE II

| Apparent Precipitating Causes 1940-1949 | | | |
|---|--------------|-----------------------------|---------------|
| Precipitating Cause | No. of Cases | Precipitating Cause | No. of Cases |
| Surgical Procedures: | | Purulent otitis media | 1 |
| Dental extraction | 15 | Pneumococcic pneumonia | 1 |
| Transurethral resection | 2 | Abortion (spontaneous) | 1 |
| Colon resection | 1 | Burns, second degree | 1 |
| Dilatation of cervix | 1 | Cellulitis of neck | 1 |
| Abortion (criminal) | 1 | Cellulitis of foot | 1 |
| Spontaneous Infections: | | Infected pilonidal sinus | 1 |
| Pleurisy with effusion | 1 | Acute cholecystitis | 1 |
| Acute sinusitis | 1 | Pyelonephritis | 1 |
| Acute pharyngitis | 1 | | |
| | | (Tot. Cases 1940-1949: 116) | 32 (27.6%) |

until therapy was initiated was much too long for best results. This is borne out by Table IV, where it is seen that both the duration of the illness and the age of the patient materially influenced the result. A history of cardiac failure or the presence of failure during the disease is especially hazardous, and Table V reveals that only one of 14 such patients was clinically cured. Table VI further emphasizes the fact that this group of patients suffered from serious underlying heart disease. The association of subacute bacterial endocarditis and auricular fibrillation is generally conceded to be a rare occurrence.¹³ Yet six (10 per cent) of the 59 patients in the antibiotic treated series had advanced heart disease with significant mechanism disturbances and only three were clinically cured.

The details of the therapy received by this group will not be reviewed in detail. In some instances it was undoubtedly inadequate. Twenty of the pa-

tients, for instance, were treated at a time when penicillin was not available in quantity. Almost without exception they received aqueous penicillin by the intramuscular route, generally in divided doses by repeated injection. Two infections were arrested by combined penicillin and aureomycin and one by aureomycin alone.

The experience with this group indicates that the physician who first sees the patient must not miss the opportunity of making a diagnosis, since only by early diagnosis can treatment be initiated before irreversible and progressive cardiac damage has occurred. Embolic accidents and cardiac failure, not persistent infection, kill most of these patients today. In Table VII are shown the causes of death in the antibiotic treated series. Those who develop this disease are largely afflicted with types of underlying heart disease which produce physical signs. Therefore a diagnosis of subacute bacterial endocarditis should be considered in every patient with an organic cardiovascular murmur who has an unexplained fever for more than one week. Efforts to complete the diagnosis should

TABLE III

| Average Known Duration of Illness in Weeks Prior to Admission. Antibiotic Treated Series 1944-1949. | | |
|---|-----------------------------|-----------------------|
| Alpha hemolytic Streptococcus | Non-hemolytic Streptococcus | Staphylococcus aureus |
| 10.8 | 12.8 | 5.1 |

precede whenever possible the appearance of petechiae, anemia, embolic phenomena, and splenomegaly, if early diagnosis is to be achieved.

Immediate efforts to identify the infecting organism by blood culture are essential. Carefully taken

cultures once or twice daily for a few days will, in the hands of a capable bacteriologist, lead to a positive result in the vast majority of instances. Only eight times in the total group of 196 cases was the organism unidentified. To begin treatment before taking cultures reduces the possibility of recovering the organism. This becomes exceedingly important when it is recognized that adequate therapy is contingent upon the laboratory evaluation of the causative organism as well as upon the clinical response of the patient. Ideally the sensitivity of the organism should be determined for all of the available antibiotic drugs, but since penicillin is the most reliable for use in this disease, its in vitro effect upon the organism must be known whenever possible. If the organism proves to be relatively or absolutely insensitive to penicillin, the effect of the other antibiotics can be determined later from a culture stored from each case.

Although the sensitivity of the organism is exceedingly important, it should be realized that

TABLE IV

| Relationship of Duration of Illness and Age of Patient in Prognosis. Antibiotic Treated Series 1944-1949. | | | | |
|---|--------------|------------|-----------|--|
| | No. of Cases | Cured | Not Cured | |
| No. of cases known to be ill less than 2 months | 31 | 25 (80.6%) | 6 | |
| No. of cases known to be ill more than 2 months | 22 | 15 (68.2%) | 7 | |
| No. of cases occurring under 40 years of age | 35 | 30 (85.7%) | 5 | |
| No. of cases occurring after 40 years of age | 24 | 14 (58.3%) | 10 | |

sensitivity tests as ordinarily performed measure the in vitro inhibiting effect of the drug and not the more important killing effect.^{11, 14} The central problem in successful therapy seems to be the bactericidal and not the bacteriostatic action of the drugs. Penicillin is rapidly bactericidal for the majority of organisms involved in this disease. However effective a drug may be against the infecting organism it must be used for a considerable period of time if cure is to occur. Eradication of the bacteremia is not enough. Experience from the days when there was no specific therapy has shown that host factors alone practically never cure the infection. Treatment must not be discontinued before most of the organisms in the poorly vascularized vegetations are killed and fibrosis and endothelialization of the area is well on its way to completion. It is for this reason that the practice of treating an undiagnosed infection with a short course of penicillin in a dosage effective for an ordinary infection is to be condemned. Clinical improvement and cessation of the bacteremia often occur, but a cure is not established, and in a few weeks the manifestations of the disease return. Valuable time has been lost and additional, if not irreversible cardiac damage may have occurred.

It is practical to determine routinely the sensitivity of the infecting organism, particularly the alpha hemolytic Streptococcus, in penicillin dilu-

tions of 0.1, 0.5 and 1.0 units per milliliter. If the organism is insensitive to 1.0 unit per milliliter it is assumed to be highly resistant and additional sensitivity tests are indicated, not only with penicillin but with the other antibiotics as well.

With sensitive organisms there has not been a very close correlation between exact blood levels of penicillin and clinical response of the patient. The recommended dosages outlined in Table VIII

TABLE V

| Cases in Cardiac Failure or with a History of Cardiac Failure at the Time of Diagnosis. Antibiotic Treated Series 1944-1949. | | | |
|--|-------------------------|----------------------------|-------------------|
| No. of Cases 14 | Cured of Infection 8 | Death From Any Cause 13 | Still Living 1 |

are *minimal initial doses* but they should insure blood levels of at least five times the in vitro sensitivity in the average case. Regardless of the sensitivity of the organism or the theoretically desirable dose, these dosages should be increased rapidly if blood cultures remain positive, if fever persists, or if there is other clinical evidence suggesting a therapeutic failure. In our experience most patients who responded to therapy were afebrile within 72 hours. Treatment should be continued for from five to eight weeks. The intramuscular administration of penicillin is routinely acceptable and in the general experience thus far most cases have been treated with aqueous penicillin in divided doses at two to three hour intervals. There is too little experience at the present time to recommend massive doses administered over a short period.^{14, 15, 16} There is reason to believe that long acting preparations of penicillin may have a place in therapy,^{17, 18, 19} thereby reducing the number of daily injections. There are fewer complicating reactions with aqueous procaine-penicillin combinations than with oil and beeswax preparations. In order to insure continuously effective blood levels, it is wise to divide the aqueous procaine-penicillin into four equal doses given at six hour intervals.

With penicillin resistant organisms, penicillin combined with other antibiotics or use of another antibiotic is to be considered. Penicillin and dihydrostreptomycin have been effective in control-

TABLE VI

| Significant Disturbances of Cardiac Mechanism Existing at the Time of Diagnosis. Antibiotic Treated Series 1944-1949. | | | |
|---|--------------------|----------------------|--------------|
| No. of Cases | Cured of Infection | Death From Any Cause | Still Living |
| Chronic Auricular Fibrillation | 5 | 3 | 2 |
| Paroxysmal Auricular Flutter | 1 | 0 | 1 |

ling non-hemolytic streptococcic infections when penicillin alone failed.^{1, 11, 14, 20} Dihydrostreptomycin is perhaps the drug of choice in treating infections due to Hemophilus influenzae and Klebsiella pneumoniae. Combined with aureomycin, it is probably the most effective means of treating Bru-

cella endocarditis. There is a recent report of successfully combining penicillin and bacitracin in the treatment of three infections after failure with penicillin alone.²¹ Nevertheless, until more is known about the synergistic effect of combining antibiotics, caution is advised in this regard. Two drugs may be less effective in some circumstances than one alone. The synergistic effect of drug com-

TABLE VII

| Causes of Death. Antibiotic Treated Series 1944-1949. | | |
|---|----------------|-------------------------|
| Causes of Death | During Therapy | Cured Cases Dying Later |
| Persistent Infection | 2 | |
| Embolic Accidents | | |
| Cerebral | 3 | 1 |
| Pulmonary | 1 | |
| Cardiac Failure | 5 | 12 |
| Non-Cardiac | | |
| Uremia | 1 | |
| Ruptured esophageal varices | 1 | |
| Pneumonia | 1 | 1 |
| Toxemia of pregnancy | | 1 |
| Unknown | 1 | 5 |

binations is explained by the fact that one drug in the mixture is capable of destroying the residual viable organisms left by the other. On the other hand, if the organism is resistant to one of the drugs, growth may be stimulated or the effect of the most active drug may be diminished.²² It is imperative therefore to test the offending organism for sensitivity to the drugs before combining them.

Nothing has been said thus far about treatment of the case in which bacteriologic proof of the diagnosis is lacking. It is difficult to decide how long one should wait before starting antibiotic therapy when blood cultures remain negative. Under this circumstance the diagnosis must be made on clinical grounds alone. It is safest to assume that the causative organism is relatively insensitive to penicillin and to begin therapy with large doses, increasing the dose rapidly if the initial response is unfavorable. Such cases, along with those due to resistant strains of bacteria, often challenge the ingenuity and resourcefulness of the physician.

During the period of active therapy, when a favorable response is indicated by negative blood cultures, a normal body temperature, a declining erythrocyte sedimentation rate, weight gain and

TABLE VIII

| Penicillin Dosage Requirements. | |
|----------------------------------|-----------------------------|
| Penicillin Sensitivity units/ml. | Penicillin Dosage units/day |
| 0.1 or less | 1,200,000 |
| 0.5 or less | 2,400,000 |
| 1.0 or less | 5,000,000 |
| more than 1.0 | 10,000,000 and above |

other signs of clinical improvement, any existing focus of infection bearing a possible relationship to the disease should be treated, if feasible. Most often, as pointed out before, dental foci bear this relationship. If oral surgery is required, usually it can be undertaken during the last two weeks before therapy is to be discontinued. Failure to eradi-

cate such foci of infection may lead, in some instances, to re-infection at a later date.

When the course of therapy has been completed, usually in five to eight weeks, convalescence under close observation is imperative. The immediate hazards are relapse of the infection and the appearance of a diminished cardiac reserve. Embolic accidents also occur during this period. Relapse, if it occurs, will generally appear within 60 days. Should it occur, the sensitivity of the organism to the various antibiotics should be redetermined. If treatment is with the same antibiotic it should be even more vigorous and prolonged. Sensitivity tests may indicate the necessity for using other antibiotics, singly or in combination. Furthermore, the cured patient must be observed carefully as he gradually resumes full activity to assess possible deterioration of cardiac function as a result of the disease.

Finally, the role of antibiotic therapy in prophylaxis must be kept in the mind constantly. The relationship of other conditions to this disease already has been mentioned. Every patient with organic valvular heart disease or a congenital cardiovascular abnormality should receive prophylactic antibiotic therapy, usually penicillin, at the time of any operative or manipulative procedure that may traumatize a mucosal surface exposed to bacteria. All bacterial infections known to respond to these drugs should be treated vigorously in these patients. All patients predisposed to this disease because of pre-existing heart disease should receive not less than 300,000 units of aqueous procaine-penicillin prior to dental extractions; this dose should be repeated at 12 hour intervals for not less than four days.

SUMMARY

Several aspects of the experience with subacute bacterial endocarditis at the State University of Iowa Hospitals over a 25 year period have been reviewed. Important factors which had a bearing upon the outcome of the cases has been emphasized and a plan for the treatment of the disease has been outlined. It is believed that this plan should result in a higher clinical cure rate than commonly exists today. The most important factors in obtaining cures are early diagnosis, isolation of the causative organism, determination of its sensitivity to penicillin and occasionally to other antibiotics as well, adequate dosage of the proper antibiotic and a sufficiently long period of treatment. The prophylactic use of penicillin under certain circumstances in patients predisposed to the disease because of underlying heart disease is stressed.

BIBLIOGRAPHY

1. Bloomfield, A. L.: Present status of treatment of subacute bacterial endocarditis. *Circulation*, 2:801-810 (December) 1950.
2. Paul, O.; Bland, E. F.; and White, P. D.: Bacterial endocarditis; experiences with penicillin therapy at the Massa-

chusetts General Hospital, 1944-1946. *New England J. Med.*, 237:349-354 (Sept. 4) 1947.

3. Griffith, G. C.; and Levinson, D. C.: Subacute bacterial endocarditis; a report of 57 patients treated with massive doses of penicillin. *California Med.*, 71:403-408 (December) 1949.

4. Gorlin, R.; Favour, C. B.; and Emery, F. J.: Long term follow-up study of penicillin treated subacute bacterial endocarditis. *New England J. Med.*, 242:995-1001 (June 29) 1950.

5. Dawson, M. H.; and Hunter, T. H.: Treatment of subacute bacterial endocarditis with penicillin. *J. A. M. A.*, 127:129-137 (Jan. 20) 1945.

6. Herring, A. C.; and Davis, W. M.: Penicillin treatment of subacute bacterial endocarditis. *J. A. M. A.*, 138:726-730 (Nov. 6) 1948.

7. Matthew, H.; and Gilchrist, A. R.: Subacute bacterial endocarditis and its treatment with penicillin. *Transactions of the Medico-Chirurgical Society of Edinburgh*, Session 128: 25-48, in the *Edinburgh M. J.*, v. 56, 1949.

8. Scheifley, C. H.; and Hagedorn, A. B.: Cardiac clinics: Treatment of subacute bacterial endocarditis; report of 40 cases. *Proc. Staff Meet. Mayo Clin.*, 22:527-530 (Nov. 12) 1947.

9. Orgain, E. S.; and Donegan, C. K.: Treatment of bacterial endocarditis. *Ann. Int. Med.*, 32:1099-1113 (June) 1950.

10. Littman, D.; and Schaaf, R. S.: Therapeutic experiences with subacute bacterial endocarditis, with special reference to the failures. *New England J. Med.*, 243:248-252 (Aug. 17) 1950.

11. Friedberg, C. K.: Subacute bacterial endocarditis: revision of diagnostic criteria and therapy. *J. A. M. A.*, 144: 527-534 (Oct. 14) 1950.

12. Hardin, R. C.: Variability of embolic phenomena in subacute bacterial endocarditis. *J. Iowa M. Soc.*, 31:95-99 (March) 1941.

13. White, P. D.: *Heart Disease*, ed. 3. New York, The Macmillan Company, 1945, p. 362.

14. Hunter, T. H.: Speculations on the mechanism of cure of bacterial endocarditis. *J. A. M. A.*, 144:524-527 (Oct. 14) 1950.

15. Hamburger, M.; and Stein, L.: A successful two-week penicillin schedule for subacute bacterial endocarditis caused by penicillin sensitive streptococcus viridans. *Proc. Cen. Soc. Clin. Res.: J. Lab. and Clin. Med.*, 36:831-832 (November) 1950.

16. King, F. H.; Schneierson, S. S.; Sussman, M. L.; Janowitz, H. D.; and Stollerman, G. H.: Prolonged moderate dose therapy versus intensive short-term therapy with penicillin and caronamide in subacute bacterial endocarditis. *J. Mt. Sinai Hosp.*, 16:35-46 (May-June) 1949.

17. Priest, W. S.; and Smith, J. M.: Depot penicillin in the treatment of bacterial endocarditis. *Quart. Bull. Northwestern Univ. Med. School*, 23:90-92, 1949.

18. Volini, I. F.; Hoffman, W. S.; and Hughes, J. R.: Treatment of subacute bacterial endocarditis with penicillin in oil and beeswax. *Abstr. Third Inter-Amer. Cardiological Congress, Am. Heart J.*, 37:684-685 (March) 1949.

19. Roston, E. H.; and Stollerman, G. H.: Procaine penicillin in the treatment of subacute bacterial endocarditis. *Am. Pract.*, 4:102-106 (October) 1949.

20. Robbins, W. C.; and Tompsett, R.: The summation of penicillin and streptomycin activity in vitro and in the treatment of subacute bacterial endocarditis. *J. Clin. Investigation*, 28:1043-1044 (September) 1949.

21. Volini, I. F.; and Kadison, E. R.: Simultaneous bacitracin and penicillin therapy in subacute bacterial endocarditis; a report on three cases. *Am. Pract. and Dig. Treat.*, 2:13-14 (January) 1951.

22. Spicer, S.: Bacteriologic studies of the new antibiotics: Effect of combined drugs on microorganisms. *J. Lab. and Clin. Med.*, 36:183-191 (August) 1950.

those programs administered by agencies of similar name or purpose whose support is derived from voluntary contributions. In Iowa, the facilities which are a part of this official crippled children's program are administered by the State Board of Education through the State University of Iowa and some of its constituent parts.

A legal definition of a crippled child does not exist in Iowa. Currently, the following diagnoses

TABLE I
CRIPPLED CHILDREN ON STATE REGISTER
FOR CALENDAR YEAR ENDING DECEMBER 31, 1951

This register includes every individual—regardless of economic status, need of medical care, or availability of treatment—who, according to information on file with the official State agency, (a) is under 21 years of age, (b) is a resident of the State, (c) has a type of crippling for which, according to the approved State plan, children may be accepted for care by the official State agency, and (d) has had his crippling condition diagnosed by a licensed physician.

| Item | Number |
|--|--------|
| 1. On State register at beginning of year | 13,903 |
| 2. Placed on State register | 2,852 |
| 3. Total on State register (item 1 plus item 2) | 16,755 |
| 4. Removed from State register for specified reasons | |
| —Total | 1,195 |
| a. Crippling condition cured | 204 |
| b. Age of 21 reached | 688 |
| c. Residence established in another State | 130 |
| d. Death of registrant | 48 |
| e. Registration found to be in error | 119 |
| f. Moved—unable to locate | 6 |
| 5. On State register at end of year | 15,560 |
| 6. Reported for registration but eligibility not determined at end of year | 209 |

are included in the definition used by State Services for Crippled Children: all orthopedic crippling conditions, crippling remediable by plastic surgery, poliomyelitis, any type of heart disease, chorea, diabetes mellitus, tuberculous meningitis, actinomycosis, nephritis, nephrosis, certain defects of speech and hearing and convulsive disorders. The acceptable age range is to 21 years of age.

Three major activities comprise this program. They include (a) the College of Medicine and University Hospitals, (b) State Services for Crippled Children and (c) the Iowa Hospital-School. The purpose of this paper, then, is to briefly describe the coordinated services for crippled children that are being fostered through these units.

IOWA'S PROGRAM FOR CRIPPLED CHILDREN

RAYMOND R. REMBOLT, M.D.
IOWA CITY

INTRODUCTION

It has seemed desirable to present an account of the official program for the medical care of crippled children in Iowa in view of current lack of knowledge and misinformation on the part of both lay and professional persons. The term "official" is used to differentiate the programs established by law and supported by legislative appropriations from

Executive Director, State Services for Crippled Children; Medical Director, Iowa Hospital-School; Associate Professor, Department of Pediatrics, State University of Iowa, Iowa City.

HISTORICAL

Perkins Act. The first major State legislative measure designed to provide for medical and surgical treatment of indigent children including crippled children, was enacted in 1915 under the name of the Perkins Act. This act provided a means for the granting of such care at the University Hospitals in Iowa City. Funds for the accomplishment of this program have resulted from the periodic appropriation of funds by the State legislature. Subsequently, the Haskell-Klaus Act was also passed. This latter action broadened the provisions of the Perkins Act to afford care for indigent adults on a basis similar to that provided for children under the Perkins Act.

County Quota Basis for Referral of Patients.

ruling to this effect was based on the following activities being achieved: (a) Provisions of the Perkins-Haskell-Klaus Acts, (b) the operation of the State supported Children's Hospital, University Hospitals, Medical Library and Laboratories, with clinics being conducted regularly in the various departments and (c) the administration of these various activities by a state agency, the Board of Education.

Approval of Augmented Crippled Children's Plan by Board of Councilors, State Medical Society. Early in 1936, at the request of Dr. E. M. MacEwen, Dean of the College of Medicine, the Board of Councilors of the State Medical Society considered and approved the plan whereby State participation in Federal support was involved.

Federal Funds Made Available to Iowa. Later in 1936 and annually since then Federal Funds became available to Iowa according to the conditions stated previously. The major portion of these funds must be matched by State appropriations, they are received by the State Treasurer quarterly, and they have been administered through the State agency, the State Board of Education, as are other legislative appropriations.

Crippled Children's Field Clinic Services. Field clinic service for crippled children began in 1936, a part of the augmented service made possible by Federal support. Such clinics were conducted for purposes of diagnosis and follow-up evaluation of patients, some of whom had been examined previously at University Hospitals. These clinics were established originally in Councilor Districts according to the wishes of the councilor and his deputy councilors for the district concerned. It was intended that these clinics, conducted by staff members of the College of Medicine, provide (a) a consultative type of service for the patient,

The plans relative to conducting field clinics required revision in 1942 due to several developments, which were as follows: (a) Most of the original clinics were not established on a continuing basis and many physicians were requesting more frequent periodic clinics; (b) clinics being conducted were becoming so large that examinations had to be made unduly brief; (c) the attempted post-graduate program for local physicians was increasingly difficult to arrange due to increased numbers of children being examined and (d) county medical societies were requesting clinics for their specific areas.

The resultant change has been the establishment of crippled children's field clinics at the request of county medical societies. At the present time, these clinics are conducted in sites within a clinic area which are selected by the medical society concerned and are held at least annually.

The Iowa Hospital-School. The Iowa 52nd General Assembly enacted a bill in 1947 creating the Iowa Hospital-School. The purpose of this enactment was to create a facility for the treatment and education of physically handicapped children who are educable but not capable of attending school in their communities because of severe physical limitations. The particularly unique feature of this enactment is that it is one of the few facilities of its kind which is under a university administration. The bill specifies that the Hospital-School be conducted in conjunction with the activities of the University of Iowa Children's Hospital. Since its creation, State appropriations have been made for operation of the Hospital-School and for the erection of a building for this facility. Since 1948 the limited program of this unit has been accomplished in temporary quarters. The first phase of a new structure which will permit the acceptance of a greater number of children for this program is under construction at this time.

PROBLEMS PERTAINING TO CARE OF CRIPPLED CHILDREN

The practicing physician is confronted with many problems in the care of crippled children. An increasing number of articles appearing in lay periodicals in recent years has aroused parents of children with physical limitations to expect near miraculous cures for conditions in which only partial physical rehabilitation is possible. Lay organizations with a missionary zeal have created community enthusiasm for fund raising or other phases of care for handicapped children which is lacking in sound direction, becomes demanding and exceeds realistic aims, in many instances. There is a great inadequacy in numbers of personnel trained in ancillary phases of care for the crippled child. Improvement in many of the more severe conditions is so gradual that parents become discouraged and tend to lose faith in the current medical management recommended. There

TABLE II
CHILDREN WHO RECEIVED SELECTED SERVICES
DURING YEAR AND VOLUME OF SELECTED
SERVICES FROM ANNUAL REPORT FOR
CALENDAR YEAR 1950

| Selected services | No. of children who received specified service | No. of visits or number of days ¹ of care |
|---|---|---|
| 1. Clinic service* | 4,032 | 6,258 visits |
| 2. Hospital in-patient care | 1,563 | 30,824 days |
| 3. Convalescent-home care | 86 | 9,165 days |
| 4. Unduplicated count of children who received one or more of the services specified on lines 1-3. | 4,905 | |

* Includes crippled children seen in field clinics and/or at University Hospitals clinics.

(b) an interpretation of the child's condition to his parents and (c) a means for post-graduate instruction for the local referring physician who might spend time observing the examination of children at the clinic. Approximately 28 clinics of this type were conducted between 1936 and 1941.

is a general lack of scientific research in this phase of medical care to aid the inquiring physician.

The physical problems of the crippled child himself are frequently far reaching. The likelihood of other abnormal functions in addition to his primary crippling condition is great. These associated abnormalities may involve sight, hearing, speech, learning, perception and possibly other functions. To obtain maximum improvement, at-

TABLE III
CRIPPLED CHILDREN'S FIELD CLINIC SERVICE, 1951

| | |
|---|-------|
| Unduplicated No. of Patients seen in 1951: 2,679 (average 79, 34 clinics) | |
| STATUS OF PATIENT'S PRIOR MEDICAL SERVICE | |
| Previous SUI visits | 1,039 |
| Previous SUI visits during past year | 452 |
| Previous field clinic service | 507 |
| New patients | 1,133 |
| DIRECT SOURCE OF PATIENT'S REFERRAL | |
| Doctors of Medicine | 902 |
| Doctors of Osteopathy | 67 |
| Others | 4 |
| DISPOSITION RECOMMENDED FOLLOWING PATIENT'S CLINIC VISIT | |
| Advised to report to SUI or other medical center | |
| (a) for treatment | 244 |
| (b) for further evaluation | 624 |
| Local services necessary | 1,622 |
| No treatment necessary | 426 |
| Return to field clinic | 1,823 |
| Patients discharged | 625 |
| Patients with unacceptable diagnoses or overage | 249 |
| PATIENT'S CONTACT WITH CLINIC STAFF AND SERVICES | |
| Pediatrician | 1,419 |
| Orthopedist | 1,547 |
| Speech & Hearing Consultant | 656 |
| Psychologist | 289 |
| Physical Therapist | 235 |
| Medical Social Consultant | 814 |
| Vocational Rehabilitation | 70 |
| SSCC Public Health Nurse | 2,550 |
| Nutritionist | 311 |
| Dental Hygienist | 508 |
| X-ray services | 669 |
| Laboratory services | 235 |

tention must be directed toward any and all abnormalities and be given to the associated defects as well as the primary one.

Frequently the impressions and attitudes of parents also constitute a hazard to expected improvement, particularly in those children with more severe crippling. Parents commonly experience three chronological phases of action regarding their severely handicapped child: (1) Rejection of the physician and his interpretation of their problem if his conclusions are unfavorable; (2) a search for a practitioner who may offer a more hopeful analysis and prognosis of the child's condition and (3) a realistic acceptance of the child's condition with the accompanying expectations for the future.¹

Mr. David B. Ray, Assistant Director of the Iowa Hospital-School, was a co-investigator with the author in a study to determine the knowledge, attitudes and expectations of the parents of 150 consecutive cerebral palsied children examined between February and June, 1951 at mobile field clinics conducted for crippled children in Iowa. These data were obtained from individual inter-

views with the parents. An incomplete and brief listing of the findings from this source are as follows: (a) Parents considered negligence on the part of the attending physician at birth as the causative factor in 50 per cent of these patients; (Phelps has shown that no more than three per cent can be attributed to poor obstetrics)²; (b) Although 80 per cent of these patients were considered by their parents to be involved to a severe or moderately severe degree, for 66 per cent of the children the parents had unrealistic aims consisting of beliefs that eventually the child would walk and talk normally, take care of himself completely and marry and establish his own household; (c) 80 per cent of the families were looking toward surgery as the solution to their child's problem, however, according to the accompanying medical examination there were only 15 per cent who had ever had surgery or were expected to need it; (d) 50 per cent of the parents believed that they could do little if anything in the way of therapy at home although most of the treatment might be accomplished there if occasional instruction and supervision could be given; (e) on the average, the parents had sought help for the child's condition from nine medical doctors, two chiropractors and one osteopath in addition to occasional trips to faith healers, etc.; (f) strong feelings of personal guilt were indicated on the part of the parents in 66 per cent of the families and a martyr complex was definite in 85 per cent of them.

It is believed that these parental attitudes as given in the foregoing paragraph are applicable also to situations where children have conditions other than cerebral palsy. It is thought that the same attitudes are to be expected when the condition is due to natal or prenatal causes and is manifested in the child with considerable physical limitation. All of these findings pertaining to parents, reflect the fact that we as physicians have functioned poorly in evaluating the child's condition or in interpreting our findings and expectations to his parents. We have failed to establish in these parents a feeling of confidence in the profession which we represent.

There are several important steps which must be taken in the proper management of a crippled child. (a) A thorough and complete evaluation of the child, often in several fields of medicine as well as allied branches, is of primary importance. For example, not infrequently the child who is labeled a "behavior problem" or "mentally retarded," upon careful examination is found to suffer a hearing loss which has accounted for his difficulties. The missed diagnosis has resulted from incomplete examination. (b) The creation and coordination of an effective program of therapy designed to afford improvement in physical status, motor function, self-dependency, schooling and emotional development would be expected to follow the careful evaluation. Or, possibly the evaluation might reveal unequivocally the uselessness of

any therapy program because of severe learning limitations. (c) Frank, considerate, detailed and recurrent counseling of the parents regarding their child's problem must accompany the evaluation and decision regarding therapy, if the efforts are to be fruitful. (d) Periodic re-evaluation, making necessary changes in the rehabilitation program and further counseling with the parents is of great importance.

Private practitioners cannot be expected to accomplish all of those steps in their office practice because of the unavailability of qualified staff persons in the various branches allied to medicine which are necessarily utilized in such a program, the time consuming process which results, and the prohibitive cost to the patient if individual fees are going to support the program. Likewise an outside consultant brought into the community for a day or two periodically cannot be expected to accomplish the suggested steps effectively, regardless of his reported capabilities. Such an approach as is necessary and which produces beneficial results most efficiently requires the cooperative teamwork of a battery of especially qualified individuals usually including the orthopedic surgeon, pediatrician, psychologist, physical therapist, speech pathologist, occupational therapist, nutritionist, medical social worker and sometimes others. Such a group of specialists attempting to function as a well knit unit are available to the physicians in Iowa in any one of the units included in the official Crippled Children's Program under discussion here. It seems that the usefulness of this team might be of greatest value in the complete evaluation of the child, particularly for purposes of establishing the therapy program, and for occasional re-evaluation. The parents might be instructed in the program of therapy to be accomplished in their own community under the cooperating supervision of their local physician.

CURRENT OFFICIAL FACILITIES FOR MEETING THE NEEDS OF THE CRIPPLED CHILD

(a) *Children's Hospital, University Hospitals and College of Medicine.* This portion of the entire program provides diagnostic and complete medical or surgical treatment services. It provides out-patient and in-patient facilities. Clinics are conducted nearly each day in the various departments of the University Hospitals for the examination and treatment of patients. Most crippled children are examined in either the Department of Orthopedic Surgery or the Department of Pediatrics. Frequently, however, it becomes necessary to secure adjunctive examinations from other departments which can be accomplished readily in this facility. Special clinics are conducted each week in the Department of Pediatrics for patients with specific types of crippling, namely, convulsive disorders, cerebral palsy, diabetes mellitus and cardiac conditions. The objective of these special clinics is for thorough evaluation of the

patient for purposes of (a) establishing an improved therapy program and (b) interpretation to the referring physician and the parents.

A coordinated interdepartmental program of care for the cerebral palsied child has been functioning in the Department of Orthopedic Surgery in recent months by the utilization of certain staff members of each of the three facilities being discussed in this presentation. The objectives of this

TABLE IV
SOURCE OF INCOME AND EXPENDITURES FOR
FISCAL YEAR 1951

| | | |
|----------------------|------------|-------------------|
| SOURCE OF INCOME: | | |
| State Appropriation* | 360,500.00 | |
| Federal Funds | 191,106.00 | |
| Miscellaneous | 68.09 | |
| Total | 551,674.09 | |
| EXPENDITURES | | Per cent to total |
| Hospital Care | 384,952.36 | 69.8 |
| Salaries | 104,169.85 | 18.9 |
| Office Expense | 15,011.12 | 2.7 |
| Training | 13,253.24 | 2.4 |
| Clinic Service | 11,040.94 | 2.0 |
| Travel | 10,828.61 | 2.0 |
| Equipment | 9,696.92 | 1.7 |
| O.A.S.I. | 2,642.74 | 0.5 |
| Total | 551,595.78 | 100.0% |

* Also indicated in amounts appropriated to University Hospitals for indigent care.

program are threefold, namely, (a) careful evaluation, (b) intelligent and realistic planning for the child and (c) good parent counseling. Basic evaluation of a given child is accomplished in the Department of Pediatrics, Department of Orthopedic Surgery and the Hospital-School. Through these facilities he may obtain pediatric and orthopedic examinations, speech and hearing evaluations, psychological study, an appraisal of educational needs, an investigation of pertinent medical social factors and determinations relative to his needs in the areas of physical therapy and occupational therapy. Of necessity a single staff member, currently the author, must function as coordinator of this program. Hospitalization is accomplished on the children's wards in Orthopedics for limited numbers at a time when a brief (usually four to six weeks) intensive program of therapy seems indicated for purposes of more definite evaluation or better basis for interpretation of the child to his parents. The major forces of coordination are accomplished by means of weekly staff conferences attended by each of the staff having any contact with the patient, residents, internes, students and any other interested persons. These conferences are instructive in that each staff person reports on his program of therapy with the child, problems encountered, and the progress noted. The apparent results of this program have been (a) improved service to the patient, (b) the learning of a team approach among staff members concerned, (c) a teaching program for staff, residents, internes and students in the management of patients of this type and (4) more intelligent counseling of parents.

(b) *State Services for Crippled Children.* This unit of the program supplies a specialty diagnostic service in the patient's home community, provides a means for hospital care, and through its staff of field workers maintains a follow-up program of instruction to the parents and observation in the home. It operates as a consulting type of service in all respects. A listing of the current major activities of this facility is as follows:

- (1) Maintaining a State Register of crippled children (Table 1).
- (2) Conducting mobile field clinics for crippled children throughout the State (Figure 1 and Tables 2 and 3).
- (3) Supporting permanent clinics conducted daily at University Hospitals in Iowa City.
- (4) Maintaining a field staff of public health nurses, medical social workers, physical therapists and speech and hearing consultants to serve as consultants to physicians and other professional workers in local communities in the interest of specific crippled children.
- (5) Purchasing hospital care, appliances and facilitating services for indigent crippled children for whom no other resources are available (Table 4).
- (6) Providing specialized training for staff members, usually outside the State, and for prospective workers in fields directly related to crippled children's programs.
- (7) Making available to professional and lay persons literature referable to crippling conditions.
- (8) Encouraging an educational program for professional persons within the State.

The objectives of this part of the entire program are apparent from a listing of the current major activities of this unit. Of prime importance, however, is an attempt to provide a service which will not duplicate existing facilities and which will make available on a consultation basis specialty services of value to the practicing physician in his attempt to give the crippled child the type of care he needs in all areas of service.

(c) *The Iowa Hospital-School.* This unit is a dormitory type facility which provides long term education and treatment for the child who is capable of learning but who is deprived of common school attendance because of severe physical crippling. There are four major objectives in the functioning of this unit: (1) Services to the crippled child (Table 5), (2) training of prospective workers (Table 6), (3) parent counseling and (4) clinical research. An aim for each student patient is to bring about improvement in all phases of his problem to the point where he may return to his home community as soon as possible and receive schooling and therapy there as his home facilities will permit. Types of service provided in the Hospital-School include medical, nursing, psychological, medical social, physical therapy, occupational therapy, speech therapy, special education and recreational activities for the patient and detailed counseling for the parents. A staff trained in many phases of crippled children's care is required in order to provide this type of service. The severity of the patient's handicap which places limits on what he can do for himself re-

quires that a great number of aides be available. Thus, a large staff is required and such a facility is an expensive undertaking. Since it is an expensive undertaking, care is exercised in the selection of patients so that those accepted will be capable of profiting from the experience and may be expected to continue their improvement after completing their Hospital-School experience.

This facility, then, provides long term care for the more severely handicapped child and offers basic educational training during the period when concentration is placed on physical rehabilitation.

In the counseling of parents of these children, the objectives are to make them as thoroughly cognizant of their child's condition as possible, to establish realistic aims for the future, and to instruct the parents in measures which they may pursue to accomplish improvement at home. Periodic parent conferences are held several times each year in an attempt to accomplish these objectives.

It has been mentioned earlier that enthusiasm for accomplishing a crippled children's plan has far exceeded possibilities for realistic accomplishment in most local communities. One of the major reasons for this is the unavailability of qualified workers in the various branches of necessary ancillary services as well as a lack of physicians who have a concept of crippled children's care which goes beyond a determination of the need for surgery or bracing in a given patient. To provide as great an opportunity for training as possible within the Hospital-School facilities, the program of care utilizes many part time trainees in various areas of care, student observers are encouraged, and as many graduate assistantships as possible are granted. This plan of training applies to students in medicine, nursing, special therapies, psychology and special education.

FUTURE OBJECTIVES OF THE PROGRAM

There must continue to be provided a means for a coordinated, thorough and complete evaluation of crippled children. The field clinics conducted under State Services for Crippled Children

TABLE V

Services to Crippled children provided by departments in Iowa Hospital-School according to patient visits to departments. October, 1948-February, 1952.

| Department | Patient Visits |
|----------------------|----------------|
| Occupational Therapy | 11,321 |
| Physical Therapy | 10,102 |
| Speech Pathology | 8,793 |
| Psychology | 712 |

and the facilities at the University and Children's Hospital attempt to provide such diagnostic opportunities on a consultation basis. If it were possible for local communities to develop this broad type of diagnostic service in the many phases of the child's needs, there would be no need for the official services.

In-patient short term treatment and educational opportunities are necessary for some patients in a diagnostic way, to determine treatment propensities and trainability. The importance of this is for purposes of establishing realistic treatment aims to be carried out at home. Continued development of this facility in Children's Hospital in order to enhance the validity of recommendations for home care seems desirable.

The continued development of the facilities of the Hospital-School is important for the child who is more severely involved physically and deprived of educational opportunities. No local community in Iowa thus far has established facilities for a balanced physical rehabilitation and educational program. Local emphasis has been given in a few communities to creating educational opportunities for these children but at the same time little concern has been given to a program also including their physical rehabilitation. Or in a few other communities the emphasis has been reversed. It is important for optimum rehabilitation that both emphases be given together. It is believed that the Hospital-School will always have a place of initiating a well rounded program of care which would include the discovering of the potentials for benefits and initiating the rehabilitation for the crippled child who is more severely involved, even though local facilities may be available. A more rapid return of the child from the Hospital-School to resources in his home community would be made possible by improved facilities in local communities.

The development of more local facilities for the treatment and education of crippled children is important. In many places this might be developed as a special room in the local schools. Special staff personnel in physical, occupational and speech therapy should be provided to work in this facility in addition to persons trained in special education. Of importance is the need for strong medical supervision, coordination, and direction of such a program. This direction might come from a local physician if he has sufficient interest and insight in such a program to not begrudge a certain

TABLE VI

Trainees who have been assigned periods in the Iowa Hospital-School as a part of their formal training, according to their fields of major interest. October, 1948 to February, 1952.

| Areas of Training | Number of trainees |
|------------------------------------|--------------------|
| Special Education | 144 |
| Speech Pathology | 77 |
| Physical Therapy | 26 |
| Occupational Therapy | 24 |
| Physical Education | 22 |
| Psychology | 17 |
| Nurses | 16 |
| Pediatric and orthopedic residents | 12 |

amount of time devoted to this unremunerative endeavor, or such supervision might be given by one of the units of the official crippled children's program under discussion. Of particular service in this way is the mobile clinic service under the State Services for Crippled Children. The develop-

ment of improved local facilities for diagnosis and treatment of the crippled child is of great importance at this time and needs emphasis.

An enhanced program of training of personnel to make available more qualified workers in all branches of crippled children's care is of tremendous importance before the development of local community facilities can become an effective link in a state plan of this kind. Enlarged facilities of the Hospital-School are of great importance in Iowa not only for service to more crippled children, but for providing greater training possibilities, and thereby more qualified personnel. Some increase in this training program is expected to be accomplished when the Hospital-School is moved into its more expansive new building.

SUMMARY

An active official crippled children's program exists in Iowa. This program is composed of the functions of three major parts, namely, (a) the College of Medicine and University Hospitals, (b) State Services for Crippled Children and (c) the Iowa Hospital-School.

The program consists of locating crippled children, offering diagnostic services by means of field clinics, providing for more detailed diagnostic and treatment services in the University and Children's Hospitals, accomplishing long term rehabilitation services in the Hospital-School and supplying a follow-up program of care. A careful and complete evaluation is of great primary importance in intelligent planning for the crippled child. The official crippled children's program attempts to provide such a service to physicians in the State. This program is provided by legislation and its services available upon request.

The major future objectives are for better training of more people in phases of crippled children's care so that more and improved local facilities can be provided in this regard, in addition to improving the services now in existence.

BIBLIOGRAPHY

1. Denhoff, E.: Pediatric aspects of cerebral palsy. Proceedings of the Scientific Sessions of the American Academy for Cerebral Palsy, (October) 1950.
2. Phelps, W. M.: Recent significant trends in the care of cerebral palsy. Southern M. J., 39:134-139 (February) 1946.

THE NEW VETERANS HOSPITAL

ROBERT C. HARDIN, M.D.
IOWA CITY
Chairman, Dean's Committee

ON MARCH 3 the first patient was admitted to the Veterans Administration Hospital in Iowa City, marking the beginning in an institution which will be closely associated with the College of Medicine. The details of the ways in which the two institutions will be connected is of interest to the medical profession of Iowa. Of equal interest is the type of medical service which will

be available to the veteran patient, the physical plant, the organization of the staff and the territory to be served.

The hospital is conveniently located on grounds contiguous to those of the University Hospitals. It is an example of the most modern in hospital construction and so planned as to facilitate patient care and patient comfort. The basic unit in the hospital is 40 beds so arranged as to constitute a nursing section. Included in each of these are ward beds, single bed rooms for the more seriously ill, a nursing station, a physician's office and an examining room. Variations in the construction of certain nursing units provide for the care of special patients. Such is evident in the areas designed for psychiatric and post-operative cases. Other functional units include clinical laboratories, occupational therapy, physical therapy, diagnostic and therapeutic x-ray. In addition, special laboratories for research and for the use of radioisotopes are provided.

The professional staff of the hospital is headed by the Chief of Professional Services who is directly responsible to the General Manager for the conduct of all professional activities. These include nursing, dietetics, laboratories, the admitting service and all of the clinical services. The clinical departments are Surgery, Internal Medicine, Radiology, Neurology and Psychiatry, Physical Rehabilitation, Pathology, the Dental Service and the Radioisotope Unit. Each is headed by a Service Chief. The various surgical and medical subspecialties are represented by staff members in the above-named departments. The Department of Pathology includes tissue pathology, clinical pathology, pathological chemistry, bacteriology and the blood bank. The Section of Physical Rehabilitation includes physical therapy, occupational therapy and corrective therapy.

The hospital will care for approximately 500 inpatients. Bed assignments to the various services is not inflexible but it is planned that about 160 will be devoted to neurology and psychiatry including psychoneurosis and psychosomatic medicine. Forty are earmarked for patients with tuberculosis. Although it was originally planned to have a separate service for tuberculosis, these beds have been placed under the jurisdiction of the medical department. The remaining 300 beds are to be used for general medical and surgical patients. The hospital will be activated gradually with nursing units phased into operation according to need. It is expected that the separate services will fill up at varying rates and that a period of about eight months will bring the hospital into full operation.

The territory from which patients will be drawn may be mapped by drawing lines from Iowa City to each of the communities in the surrounding area in which General Medical and Surgical Hospitals of the Veterans Administration are located. Lines connecting the midpoints of these radii will enclose the territory to be served by the

new hospital. Roughly this includes eastern Iowa, western Illinois and part of northern Missouri. However, admission from outside this area will occur under certain circumstances. Patients may be admitted at Iowa City if there are special facilities for their care not available in a Veterans Hospital nearer their homes or if there is no available bed nearer their residence.

The Veterans Administration Hospital in Iowa City is a Dean's Committee hospital. This means that it is to be a teaching hospital in every sense of the word. The College of Medicine is responsible for the teaching program and for the maintenance of adequate standards, a responsibility discharged through the Dean's Committee. This body is appointed by the Veterans Administration on recommendation of the Office of the Dean. All members are from the faculty and none is employed by the Veterans Administration. The membership is presently composed of four from the College of Medicine and one from the College of Dentistry.

This committee acts in an advisory capacity to the General Manager of the Veterans Hospital. Although its chief concern is with the teaching program of the hospital it is recognized that this activity is inseparable from any other function of the hospital. Its help is sought, therefore, in a wide range of problems. No physician is appointed to the staff without recommendation of the committee. In fact, because of the contemplated teaching program, the committee has been active in recruiting doctors for the staff. The Dean's Committee will also recommend the appointment of consultants to the various services. It will be the function of these individuals to aid in the establishment of resident training and to advise as to policy in related matters. Attending physicians will also be appointed with the duty of participating in patient care. Their presence on the wards and in the operating rooms will provide not only assistance in patient care to the full-time staff but aid in teaching. In these two groups will be included many members of the faculties of the colleges of medicine and dentistry. In addition, members of the full-time staff of the Veterans Hospital may hold clinical appointments on the faculty of the University. The integration of staffs by the two mechanisms described offers the opportunity to utilize the new hospital to the fullest as a teaching institution. It is expected that clinical clerkships will be extended to include service in the Veterans Hospital. Certain residency training will also be offered. Because the patient load will be composed predominantly of adult men cooperative programs between the Veterans Hospital and the University Hospitals will be necessary in some specialties.

There has been briefly presented an outline of the association between the Veterans Hospital in Iowa City and the University. It must be pointed out that the Veterans Hospital is an independent institution which is administratively responsible

to an agency other than the University. The cooperation between the two institutions is the result of bilateral voluntary action. Means of implementing such action are provided by the existence of the Dean's Committee. Many problems can be foreseen and others may be expected to appear. However, the Committee expects that, in due time, the Veterans Hospital will be utilized to the fullest extent as a teaching unit of the colleges of medicine and dentistry.

State University of Iowa
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

February 20, 1952

SUMMARY OF CLINICAL RECORD

A 28 year old white stuporous woman was brought to the University Hospitals by her husband. She was a known diabetic of seven years' duration. Her first admission had occurred ten months previously, with the complaint of multiple carbuncles of the neck and buttocks of one month's duration. Urinalysis showed 4 plus sugar and 4 plus acetone. The blood sugar was 485 mg. per cent; serology tests were negative. Diabetic control was established with diet and insulin. Excision of the carbuncles with skin grafting was carried out. However, the patient signed herself out of the hospital and at that time it was estimated that ten per cent of the grafts had taken. She was instructed to take regular insulin units 30-5-20.

Eight months later she was admitted for treatment of carbuncles which had reoccurred between the scapulae during the past two months. Treatment in the local hospital had consisted of incision and drainage of the carbuncles, penicillin and insulin. Three weeks prior to this admission had been spent in a county home. She had not tested her urine or followed a diet. Additional complaints were shortness of breath, ease of fatigue and swelling of the ankles which disappeared during the night. Diabetic control was again established and the carbuncles responded well to penicillin therapy. A psychiatric consultant thought she was of low normal intelligence and probably had mild schizophrenia. The patient was discharged on protamine zinc units 40 plus regular insulin units 20 in separate syringes and dietary instruction.

One week prior to her final admission she noted increasing ease of fatigue, thirst and later vomited. Burning and smarting on urination appeared and she complained of a "bad cold," but denied chills or fever. Although she was vomiting and the urine tested 4 plus for sugar, she took her insulin rather irregularly. Still later, with chills her symptoms increased in severity. Four days before entering the University Hospitals, coma appeared and

she was taken to her local hospital. Because of poor response to therapy, transfer to the University Hospitals was advised.

Physical examination revealed a pale, markedly dehydrated, but not malnourished woman in stupor. The buccal mucous membranes were dry and crusted and the tongue was dry. The skin was cool, and the patient was perspiring. The odor of acetone could not be detected. The rectal temperature was 99.2 degrees, the pulse was 92 per minute and the respirations were 28 per minute. Blood pressure was 130/80 mm. of Hg. The pupils reacted to light and in accommodation. The plantar reflexes were decreased, and the other reflexes absent. The eyeballs were hard. The fundi were not examined at that time. There were also numerous scars over the back and extremities. Pulses in the extremities could all be palpated. The lungs were clear to auscultation and percussion. The heart was not enlarged, and there were no murmurs. Examination of the abdomen elicited no abnormal masses or tenderness. The patient was menstruating and a pelvic examination was not done. The rectal examination was normal. Urine examination showed 4 plus sugar and 4 plus acetone, 2 plus albumin and 8 white blood cells and 3 red blood cells per high power field in a catheterized specimen.

During the next 24 hours with management on regular insulin the urine became relatively sugar-free. Fluid intake was satisfactory, but the patient became worse. The body temperature rose to 103 degrees, pulse 144, respirations 34. One hundred thousand units of aqueous penicillin were administered every three hours. She developed a cough two days later, and the temperature elevation continued to 103.6 degrees with pulse 130 and respirations 33. The white blood count was 26,400 per cu. mm. with 86 per cent polymorphonuclear leukocytes. Spinal fluid examination revealed 16 cells which were not classified. There was 26 mg. per cent protein, 170 mg. per cent sugar and 765 mg. per cent chlorides. The culture was negative. The urine did not remain sugar-free and many pus cells were found on the second hospital day. Fundoscopic examination on the fifth day of hospitalization showed large cotton-wool patches with hemorrhagic centers in both fundi, together with a few punctate hemorrhages.

One week after admission, rales were heard throughout the lung fields. The patient appeared dehydrated, although the fluid intake was considered adequate. The body temperature remained 103.2 degrees with pulse 122 and respirations 28. The white blood count was 38,000 per cu. mm. A slightly tender mass could be palpated in the abdomen five fingerbreadths below the right costal margin. An x-ray film of the chest showed a patchy increase in density throughout both lung fields. The heart was transverse in position and apparently not enlarged. Specific medications at

this time in addition to forcing fluids, insulin and penicillin were sulfadiazine 1 Gm. every four hours and streptomycin 250 mg. every three hours. Penicillin was increased to 300,000 units every two hours and later 500,000 units every two hours.

Urological consultation was obtained. Cystoscopy revealed a generalized hemorrhagic cystitis. Intravenous pyelograms showed poor function bilaterally. There was evidence to suggest symmetrical enlargement of each kidney.

Two days later the patient seemed more alert, the body temperature was slightly lower, but the pulse was 140 and the respirations were 26. Blood cultures were returned positive for hemolytic staphylococcus aureus, and seven subsequent blood cultures were also positive for this organism. Urine culture was reported positive for hemolytic staphylococcus aureus and aerobacter aerogenes. Acid fast smears of the urine were negative for tubercle bacilli. Digitoxin 1.2 mg. was given over 12 hours, then continued as 0.1 mg. every 12 hours.

A pleural friction rub developed over the anterior chest to the right of the sternum. A progress x-ray film of the chest showed an apparent localized fluid level in the upper third of the left lung, cardiac enlargement and a scattered patchy increase in density as noted previously. Sputum examinations for tubercle bacilli were reported negative.

During the third week she became disoriented. A slight failure of convergence of the left eye was noted, but neurological examination was otherwise normal. The friction rub in the right anterior chest persisted. Third examination of the chest by x-ray showed fluid at the base of the left lung, with no change in the appearance of the lung fields or in cardiac size.

On the sixteenth day the patient did not speak, but could protrude her tongue upon request. Her pupils reacted normally. The mucous membranes were dehydrated. There was dullness to percussion over both lung bases and scattered rales were heard. The heart was overactive and rapid. The abdomen was moderately distended, but not tender. There was edema over the dorsum of the hands and feet. The body temperature was 102 degrees with pulse 140 and respirations 30. On the following morning she refused her breakfast. She was found dead in bed ten minutes later.

NECROPSY FINDINGS

The conspicuous findings were those of pyemia due to hemolytic staphylococcus aureus. Scars of healed carbuncles and furuncles were noted over many areas of the skin. Abscesses were noted in skin, heart, lungs and kidneys. Bilateral empyema thoracis and fibrinous pericarditis were noted in addition to large serous effusions into these serous cavities. A small perinephric abscess was located near the lower pole of the right kidney.

The spleen was acutely congested, and focal areas of fatty metamorphosis occurred in the liver.

The islands of Langerhans were reduced in size and numbers. With Gomori's aldehyde-fuchsin stain, beta cells were few in number, and those persisting were degranulated. The bulk of many of the islets was comprised of alpha cells. Hyaline degeneration was observed in many of the islets. A conspicuous decrease in zymogen granules in pancreatic acinar tissue was also observed. The hypophysis (aldehyde-fuchsin stain), thyroid and adrenals were not unusual.

No lesions were observed in the brain.

NECROPSY DIAGNOSIS

Pyemia due to hemolytic staphylococcus aureus, with abscesses in heart, lungs, kidneys, skin and right perinephric region.

Acute fibrinous pericarditis with effusion.

Empyema thoracis, bilateral.

Ascites.

Diabetes mellitus.

CLINICAL DISCUSSION

Dr. T. Lyle Carr, Medicine: It is obvious from the protocol that this 28 year old woman, a diabetic for seven years, had done little toward taking care of her diabetes. Ten months and again eight months before her final admission, she was seen in this hospital with overwhelming skin infections and with diabetes which was poorly controlled. We would expect her to have severe diabetes, and we cannot be too surprised that she was in difficulty from time to time, since she omitted insulin and violated her diet.

The final hospital admission was preceded by a period of hospitalization at her home town and a period when she was obviously severely ill. Thus the diabetic acidosis developed over a fairly long period of time. The skin infection was to a lesser extent still with her. There were other symptoms, however, on the final admission. There was a rapid pulse, increased respirations and other evidences of infection. I suppose with a rapid pulse, the fact that she was in ketosis, we should keep in mind thyrotoxicosis as a precipitating factor, but there is nothing else to suggest this. The rapid respirations might well be a manifestation of the diabetic acidosis.

She had four plus acetone in the urine, but the eyeballs were recorded as being hard and no acetone could be detected on the breath. Some physicians can smell acetone on the breath better than others, and some observers might have been able to detect acetone on her breath. I would imagine that it was there, from the laboratory findings. You should also note that she had a urinary tract infection. Albumin and pus cells were in the urine. Whether the pus cells were sufficient to account for the albuminuria or whether it was a combination of events, I do not think we can say at this time.

She received 12 liters of water in the first two days and 345 units of insulin. The acetone disappeared from the urine. Chemically she was somewhat better, but clinically she appeared worse. Infection persisted, her temperature was now 103°, her pulse 144, and the respirations were even more rapid. The increased respiratory rate was not related to the acidosis as we measured it chemically and as we evaluated her clinically. A cough was present, as was a urinary tract infection. The leukocytosis was an indication of an overwhelming infection. An ophthalmologist described findings compatible with diabetic retinitis. In view of the evidence that poorly controlled diabetes may predispose to the development of these fundus changes, this is additional evidence that her diabetes had been poorly controlled in the past.

There were some abnormal breath sounds throughout both lung fields. The temperature, pulse, respirations remained elevated and by the second week a mass was noted in the right abdomen. Whether the mass was kidney or liver we cannot judge from the evidence. She was given therapy for the infection, consisting of several types of antibiotics. A urologist cystoscoped her and saw a generalized hemorrhagic cystitis. The intravenous pyelograms suggested symmetrical enlargement of each kidney. Blood cultures on eight occasions grew out hemolytic staphylococcus aureus. The urine also was positive for that organism in addition to some others. A pleural friction rub was then found, and chest x-rays showed a lesion with a fluid level on the right side. From the data, it would appear that a lung abscess with a fluid had developed.

During the third week, she was more disoriented. Failure of convergence of the left eye could mean a lesion in the mid-brain, but the pupils reacted in a normal manner. She was unable to speak. Rales were still present at the base of the lungs. Her physicians noted the heart was larger, and because it continued to beat at a rapid rate they gave digitoxin. In spite of therapy directed toward the infection and apparent heart failure, she continued to become worse and expired. At the time of death evidences of infection still remained, and there was edema of the hands and feet.

As you review the therapy, you note the fluid intake and output were adequate throughout this period. The 12 liters intake and only 1600 cc. output in the first two days is not unusual. She was quite dehydrated; and therefore the difference between intake and output would be great.

She continued to excrete sugar with the urine part of the time, but no acetone; and the blood sugar remained elevated most of the time. There was no evidence of uremia until late. Certainly the amount of insulin and the time of its administration would seem to be adequate.

Dr. Stephen A. Forbes, Radiology: This woman

had an apparently healthy chest on her first admission to the hospital. The heart is normal in size and contour. The lung fields are clear. However, on her last admission eight months later she was quite ill and it was impossible to get an entirely satisfactory film. The lung fields are hypoventilated and the heart transverse in position. There is patchy increase in density, thought at that time to be due to bronchopneumonia. On a film of the chest four days later, a sharply circumscribed abscess can be seen in the mid-third of the left lung field. The patchy increase in density continues throughout the lung fields. A great increase in the size of the heart is now evident. This could be on the basis of a pericardial effusion or myocarditis, either on a toxic or inflammatory basis. The final film shows very little change. Fluid at the left base is more evident than noted a week ago. There is no further change in the outline of the heart. The abscess cavity in the left lung persists.

Dr. Carr: Although fluid was not present in an abscess cavity, at least one abscess was present. May we have the student opinion?

Mr. Richard Liebendorfer, Junior Student: The majority of the junior class believed this was a case of diabetes mellitus with septicemia, staphylococcus aureus in type, with focal areas of abscess formation in the lung, brain, the kidneys, pyelonephritis and urethra. Also considered were pyonephrosis, toxic myocarditis, arteriosclerotic heart disease. Eighteen voted for a bacterial endocarditis. There was one vote for tuberculosis.

As for the causes of death, in order of preference, we listed septicemia, congestive heart failure, brain abscess with pulmonary edema and respiratory failure or a cerebral vascular accident.

Dr. Carr: You notice we have no clinical findings recorded with the urologic consultation. Dr. Bunge has reviewed the clinical record and I wonder if he would list the clinical findings, and see how you interpret them.

Dr. Richard G. Bunge, Urology: You fellows were pretty sure that this patient had a urinary tract infection. Why?

Mr. Liebendorfer: The urine contained pus cells and red cells, and cystoscopy revealed a hemorrhagic cystitis. Therefore we could probably say that she had a urinary tract infection of some type.

Dr. Bunge: What was the organism?

Mr. Liebendorfer: Probably a staphylococcus aureus.

Dr. Bunge: What type of lesion would she have in the kidneys under these conditions of septicemia and multiple foci of infection?

Mr. Liebendorfer: She would probably have a cortical abscess.

Dr. Bunge: You will notice in the protocol there is mentioned a mass in the right upper quadrant, and when the urologic consultant saw this patient he found that there was some scoliosis of the spine, definite tenderness in the right costo-verte-

bral angle; and in the x-rays there were certain findings. You will notice on the KUB that there is a curvature of the spine with concavity to the right. In addition there is obliteration of the right kidney outline and right psoas shadow. What does this mean to you in this particular patient?

Mr. Liebendorfer: Probable fixation of the kidney by perirenal infection, possibly a perinephritic abscess.

Dr. Bunge: That is correct. Additional x-ray evidence could have been obtained by having the patient breathe while an intravenous pyelogram was done. The left pyelogram would have been blurred, the right kidney distinct, due to fixation of the kidney.

Dr. Carr: Dr. Wilcox is now on the staff of our Student Health Department, but he had the opportunity to help take care of this young lady when she was in the hospital. I wonder if he would give us some pertinent facts relating to her care. Perhaps he can tell us why she was not interested in taking care of herself. Also, we would like to know the final clinical diagnosis.

Dr. Robert A. Wilcox, Student Health: This woman had had diabetes for nine years at the time of her last admission to the hospital. She was one of 13 children, all of whom were farmed out to various relatives. The parents took care of none of the 13 children. The patient was raised by her grandmother. She completed the eighth grade with a great deal of difficulty. She had been married about six years, and the marriage was not very satisfactory.

The patient was in and out of diabetic control most of the time. The doctor that sent her here for the second time requested specifically that she have a psychiatric evaluation. The psychiatrist consulted her briefly and felt that she had mixed schizophrenic tendencies and was of low normal intelligence.

She lived on hot dogs, bologna sausage and bread which she would pick up from the trays at the cafeteria where she worked. She did not take any insulin except when she thought about it and so between her dietary indiscretions most of the time she was either in a doctor's office or in the hospital. When she came into the ward on her last visit, she was comatose and she at no time during her last admission was able to give any good story of what had happened to her between the time of her second and third admission.

We made a diagnosis of septicemia and generalized abscesses in the lungs, brain and kidneys.

Dr. Carr: I did not hear in the student opinion any reference to the fact that this woman might have had a hypopotassemic episode which caused her death. Such an episode should have occurred during the first few days of her illness, but it did not and she was eating well. It is highly unlikely at this late date, but it should be commented upon.

Dr. Layton, would you present the findings of the post mortem examination?

Dr. Jack M. Layton, Pathology: I want to say a few words about the pathological anatomy of diabetes mellitus. The disease is associated with structural changes in the pancreas and in the arterial system. As a result of the vascular involvement, renal lesions may develop.

In the vast majority of cases, one finds no macroscopic evidence of the disease in the pancreas. When the pancreatic islet tissue is destroyed along with acinar tissue in some cases of acute or chronic pancreatitis and occasional cases of extensive pancreatic carcinoma, diabetes mellitus may develop.

Microscopically, there are anatomical changes in the pancreas in about 80 per cent of the cases of diabetes mellitus which come to autopsy. About 50 per cent of people who die with diabetes mellitus have hyaline degeneration in the pancreatic islets. On the other hand, 50 per cent of the people do not, and it is now rather clear that the hyaline degeneration does not explain the islet insufficiency in diabetes mellitus.

With hematoxylin and eosin stains, the islet tissue, for the most part, appears normal; but occasionally one will see a few pycnotic nuclei or other evidence of cellular degeneration. Histochemical reactions to differentially stain the alpha and beta cells of the pancreatic islets have developed. As Gomori's technics have been applied to diabetic pancreases, people who have had experience with the method are able to make an anatomical diagnosis of diabetes mellitus on the basis of absent or decreased beta cell granulations in about 65 per cent of the cases. Another 15 per cent show hyaline degeneration in addition, and this may also aid in the diagnosis. At least two fairly large series of cases from different investigators have contributed an almost identical figure of 80 per cent accuracy in determining the diagnosis of diabetes mellitus by these histochemical technics. In a few cases, particularly the older diabetics, others have thought that on the basis of some of the renal vascular lesions, the intercapillary glomerular sclerosis and all, that they can add to that 80 per cent a little. This leaves about 20 per cent of cases in which there is no anatomical explanation at present for human diabetes mellitus. However, this may represent a defection in our methods, and histochemical technics later may reveal abnormalities not now apparent.

Anatomical evidence suggests that diabetes mellitus is not primarily a disease of the islands of Langerhans, but that the islets are the "target organ" upon which an extrapancreatic influence that either inhibits the formation of insulin, neutralizes it, or increases the demand for the hormone beyond the amount that the islets can supply, exerts its effect.

The causes of death with diabetes mellitus are varied, but about two-thirds of the people die

of some complication related to the diabetes mellitus.

Dr. Carr: I would like to ask Dr. Porter to give an opinion why diabetics seem to be more susceptible to infection than other people, and whether it is related specifically to the high blood and tissue glucose level.

Dr. J. R. Porter, Bacteriology: From a bacteriological standpoint, there are two or three points of interest in this case. When this patient first entered the hospital in 1948 her carbuncles and furuncles responded to treatment with penicillin; after returning some time later the responsible organisms were resistant to penicillin, streptomycin and sulfadiazine. As you know, this situation occurs quite frequently. Fortunately, at the present time, the laboratory can give the clinician a great deal of information concerning the resistance or susceptibility of microorganisms to antibiotics.

Why diabetics sometimes are more susceptible than other people to certain types of infections is extremely difficult to answer. About all we can do is speculate about this condition. In any metabolic disease we can probably assume that the normal defense mechanisms of the skin and other tissues of the body are not operating optimally. However, there are a few studies which may give some specific indication as to what is taking place. One of these is on glucose levels in the skin. In normal skin the level of glucose rarely runs above 58 mg. per 100 Gm. of tissue, whereas in uncontrolled diabetics the level is much higher; values of 68 to 80 mg. are not uncommon. It has also been observed that patients with a high level of glucose in the skin are frequently more susceptible to carbuncles, furuncles, sweat gland abscesses, etc. From this it is possible to postulate that a high level of glucose in the skin provides an excellent opportunity for microorganisms to increase rapidly on the surface. In alloxan diabetes in rabbits, it has also been shown that the skin is much more susceptible to the dermanecrotic toxins produced by staphylococci than in normal skin. Therefore it would seem that factors are favorable in the skin of diabetics to permit staphylococci and other microorganisms to multiply above a normal rate. After invasion takes place an overwhelming infection may result. Possibly it is asking too much to bring such infections under control, even with antibiotics.

Dr. Carr: Today we would have been able to obtain sensitivity studies, and it is possible that the organism might have been susceptible to aureomycin or terramycin. It is doubtful that much could have been done even with a more specific antibiotic in view of the large collections of pus that were present.

Dr. Ziffren, would you tell us something about the treatment of abscesses that occur in diabetic and non-diabetic people, especially carbuncles?

Dr. Sidney E. Ziffren, Surgery: Prior to the

advent of antibiotics, we treated these people with gridiron incisions or wide excision of the area followed by grafting, presumably as was done in this instance. Since the advent of the antibiotics we have taken a more conservative view of the treatment of carbuncles. We do not see as many of them as formerly, because of the antibiotics. In a person who does have a carbuncle, it is wise to institute immediate therapy with an antibiotic that will affect the organism, and in most instances it is the hemolytic staphylococcus aureus, which is susceptible to penicillin. Frequently these areas will subside completely or at least sufficiently so that it is only necessary to drain the area by means of an incision, or if some necrosis results, to cut out only the area of necrosis. It is rarely ever necessary to carry out the tremendous excisions that we once did in which we cut out into healthy tissue, uncovering a tremendous area on the back of the neck or the back which subsequently required grafting and kept the patient in the hospital for a long period. Some surgeons are injecting penicillin locally into these areas and about the margins, mixing penicillin with procaine to lessen the pain on injection, and have reported some very successful results.

As a general rule, then, I believe the best method of treatment is through the administration of large doses of antibiotic. As the lesion subsides, if an area of localized pus develops, drain it, or if an area of necrosis occurs, excise it. The antibiotics have permitted us to become quite conservative in the management of carbuncles.

Dr. Raymond F. Sheets, Medicine: Was this perinephric abscess treated, and what would one do for it?

Dr. Bunge: The abscess was not treated. Our experience with perinephric abscesses is similar to that of the surgeons' with carbuncles. Before the advent of antibiotic therapy they were always indications for surgical intervention and drainage. Nowadays, if we see a large perinephric abscess, as indicated by x-rays and clinical findings, we will advocate the use of antibiotic therapy; and in every case that we have treated so far, surgical intervention has not been necessary. As surgical infections of the mastoid disappeared from otology, surgical perinephric abscess has left urology.

Dr. Carr: As you recall, the urology resident recorded in the clinical record scoliosis, bulging and pain on pressure or percussion over the right costovertebral area. There was a mass in the anterior abdomen. Those are the clinical findings that indicated the need for laboratory and x-ray studies of this region.

We have had an opportunity to correlate clinical with autopsy findings of a woman with severe poorly-controlled diabetes. This was further complicated by multiple, widespread abscesses throughout several organs in the body. The infection did not respond to antibiotics and adequate diabetic care.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. MCCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MRS. MARILYN McLAUGHLIN, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.Van Meter
DANIEL A. GLOMSET, M.D.Des Moines
TOM D. THROCKMORTON, M.D.Des Moines

PUBLICATION COMMITTEE

ROBERT N. LARIMER, M.D., Trustee.....Sioux City
LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M. D., Trustee.....Newton
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9

Vol. XLII

APRIL, 1952

No. 4

THE UNIVERSITY OF IOWA ISSUE

The current issue of the *Journal* continues the annual custom of presenting articles prepared by members of the faculty of the College of Medicine of the State University of Iowa. The committee in charge of this issue has presented several subjects from various departments which previously have not contributed in the past. Again these papers demonstrate the high standards which have prevailed at our medical school.

It is only fitting at this time to again congratulate the Executive Committee for the splendid work accomplished in the absence of a regularly appointed Dean. Probably the most interesting program developed during the past year has been the establishment of a preceptor plan of training, which is to be initiated at the close of the current school session.

The *Journal* desires to thank Dr. Adolph L. Sahs and his committee which prepared this issue for their kind cooperation and helpfulness.

THE STATE SOCIETY WILL BUILD A HEADQUARTERS HOME

It is with great pride and satisfaction that the *Journal* announces to our readers the start of construction on a new home for headquarters of the Iowa State Medical Society. We have come a long way since that day in June, 1850, when we were organized. We have come a long way from the first office rented in 1912. Today we are an active Society practically bursting out at the seams in our present quarters.

Much thought and deliberation lie behind the

decision to build. The Trustees will report on that in the Handbook and at the Annual Meeting. The thing in which we are all interested now is the new building, what it will be like, where it is located, and when it will be ready.

The lot on which it will be situated is number 529 Thirty-sixth Street. This is halfway between Grand and Ingersoll Avenues in Des Moines, two main traffic arteries. The lot is half a block from public transportation, or eight minutes from the loop by curbliner. It is close to neighborhood facilities such as restaurants, drugstores, groceries and small shops. It is not on a heavily traveled street, but is close to two of them.

Size of the lot is 64 by 132 feet. The building will be 25 feet back from the curb, and will be of brick and tile construction. Its size will be 40 by 50 feet, thus leaving ample parking space in the rear. Because of the contour of the land, it will be possible to have a full basement open on two sides, in addition to the first floor space. At the present time it is planned to use the back half of the basement for storage and the front half for a large committee room. This will accommodate the Executive Council and larger groups, something we have needed for a long time.

On the first floor there will be five small offices, one large central office for the stenographers, a conference room and large work room. The building will be air conditioned.

Exterior finish will be buff Roman brick across the front, with buff tile for the sides and back. The name of the Society and the date of its founding, will appear above the front windows in a stone inset. Two small planters of stone for small shrubs and flowers will be built below the front windows.

Contractor is Robert P. Uetz of Des Moines who says it will require about four months to build. Quite a bit of progress should have been made by the time of the meeting, so that our members can view it for themselves then.

This is a forward step for our Society. It will give us an efficient plant in which to carry on our many activities; it will provide the necessary elbow room for expansion and it will center the activities of the many officers and committee members in the headquarters itself. All of these should prove beneficial to us over the years.

CARE OF THE HEMIPLEGIC

In this rapidly moving civilization of ours, practicing physicians take delight in dramatic, short term, therapeutic methods. By such standards we consider physiotherapy a dull facet of treatment. It is tedious and time consuming. Results are measured in weeks instead of hours. And yet, we must admit that the physiotherapists have something. Sister Kenny taught us that lesson in poliomyelitis. Now we are learning about the care of the hemiplegic.

"Formerly, the patient suffering with a cerebral vascular accident was put to bed with sedation and an ice cap. The fatalistic attitude was that the patient might live or death might ensue. No thought of treatment was usually given beyond the acute situation. If locomotion eventually returned, the extremities were so atrophied from disuse that results were extremely poor. The upper extremity was usually deformed by contracture and joint fixations of hand, wrist, elbow and shoulder were the rule. Almost invariably the patient was kept in bed until he or she insisted on arising. Usually, if the patient was insistent enough, he was lifted out of bed onto a chair or commode and lifted back to bed. He was not encouraged, in fact, he was discouraged, from helping himself."*

We practicing physicians cannot tolerate such a situation as described above. There are 1,000,000 hemiplegics in the United States today. Tomorrow there will be more. These patients are almost always depressed. We can do a great deal to cheer them. We can prevent deformity and hasten recovery by encouraging passive and active exercise, by proper administration of splints and pillows, by use of heat and massage, by encouraging early ambulation and by use of the unaffected hand for writing and eating.

If we are fortunate enough to have the facilities of a trained physiotherapist at hand, treatment can be greatly expedited. Not only is he willing to spend the time necessary to teach these patients proper exercises, but his mere presence lends a great deal of encouragement. If a physiotherapist is not available it is suggested that the patient be taken to a location where one is available when recovery is far enough advanced. He may be hospitalized or taken as an out-patient to the physiotherapist where the expert may teach the patient and family the proper paths toward recovery.

Let us hope that the future will see trained physiotherapists in private practice in our larger towns thus increasing the scope of their service. Until that day arrives, we physicians must take more interest in these unfortunates. The hemiplegic will be eternally grateful.

LIMITATION ON MEDICAL GRANTS FOR OLD AGE ASSISTANCE RECIPIENTS

Beginning May 1, the Iowa Department of Social Welfare is placing a maximum of \$4.00 as the amount to be granted from its funds to an individual for medical care. Persons requiring treatment in excess of \$4.00 a month will need supplementation from county funds or will have to arrange for payment through private resources.

Supplementation from county funds is now the rule for acute illness or surgical conditions in the aged recipients, these being the responsibility of the county boards of supervisors.

The placing of maximums on the various items is not new in public assistance programs. These limitations exist for all other items of need. The recipients' allowance for food averages only 65c per day. This amount for food has not been changed since 1947, although food prices have risen. Under our state law, the counties cannot supplement a state grant for food, but they may grant additional for medical needs. It is planned that the state will add what is saved by the change in the medical allowance to the food allowance.

The reason behind the change is that it is impossible to predict how much illness an individual will have in the ensuing year. In Iowa 57 per cent of old age recipients receive a medical grant. In other states with a postpayment plan the percentage runs from 28 to 30 per cent. Obviously our guess in Iowa must be inaccurate if the actual cost under a postpayment plan is 28 to 30 per cent. In one Iowa county 82 per cent receive a medical grant, in another only six per cent, again demonstrating the fallibility of guesswork. Obviously there are great inequities in the present plan.

Persons receiving a medical grant who divert the funds to other purposes have an unfair advantage over those who receive no medical grant, or those who actually use it for the medical care they need. Many physicians report they are not paid for their services. The money, amounting to some five and a half million dollars a year, is not being used for medical care, but instead supplements other allowances for daily living. The amount is out of proportion, also, to the allowances for the recipients' other needs.

We are told, and we feel it is true, that the State Board of Social Welfare wants the physicians to be paid for the care they render. The Board realizes that under the present setup the physicians are not receiving the funds allotted for medical care. It is hoped that under the new plan, in which the counties will have to assume part of the responsibility, the physicians may be reimbursed. The members of the State Board of Social Welfare are at present visiting the boards of supervisors in every county, explaining the change to them and pointing out their responsibilities. They report the program is being well accepted by the supervisors.

It is expected that sometime in 1953, the whole medical plan may be returned to the counties. Experience in the past has shown that the local unit is the most efficient administrator of such programs. There are many physicians who feel it would be beneficial to all concerned to have the program locally administered and supervised, and it is the belief of many that such a program

* Burnham, L. R.: Physical medicine and rehabilitation for patients with hemiplegia. *J. Maine Med. Assoc.*, 42:173-178 (June) 1951.

would cost far less and be of vastly greater worth to everyone.

NEW IOWA CITY VETERANS HOSPITAL

On March 17, 1951 the new Veterans Hospital at Iowa City was officially opened by Carl R. Gray, Jr., Administrator of the Veterans Administration. Among distinguished guests present was Vice Admiral Joel T. Boone, Chief Medical Director of the Veterans Administration.

In the frontispiece of this issue you will find a photograph of the medical campus at Iowa City with the new Veterans Administration Hospital occupying a position of prominence.

The *Journal* extends its best wishes upon the completion of this Hospital and expresses the hope of all physicians in Iowa that the medical care afforded by this new facility will maintain the tradition of excellence for which Iowa City is noted.

APRIL CANCER CRUSADE

This month marks the annual appeal of the Iowa Division of the American Cancer Society for funds to continue their work for another year. This Society is to be congratulated again for performing functions which rank this State at the top in the problems of cancer treatment. The officers of this Society have proved the adage that programming is true campaigning. Twelve grants totaling \$45,000 have been awarded the State University of Iowa to continue and expand its research war against cancer. The program, as carried out in 1951, was termed the "best program of cancer research of any American Cancer Society division I have yet seen" by Dr. Cornelius P. Rhoads, director of the Memorial Hospital for Cancer and Allied Diseases in New York City.

During the past four years approximately \$190,000 have been made available to these research laboratories by the State Cancer Society. These funds are in addition to \$415,000 given during the past four years to the National American Cancer Society for other research work. \$33,000 of this amount was returned in grants-in-aids and fellowships.

In addition the splendid professional motion pictures, slides and reprints related to cancer have been added to and are currently available for both professional and non-professional groups. The official publication "New Horizons" continues to be published quarterly and does much to stimulate interest in cancer control. The Iowa Division expends approximately \$25,000 per year to continue their nurses' scholarship program. During 1951 every doctor in the State received a cancer film booklet.

In order to maintain the excellence of this

splendid program every physician is urged to cooperate not only with necessary funds but wholehearted support of the continuing campaign against cancer.

JOURNAL OF THE STUDENT AMERICAN MEDICAL ASSOCIATION

The *Journal of the Iowa State Medical Society* hails the initial issue of the *Journal of the Student American Medical Association*, representing the AMA's student interest, organized in 1950 and composed of medical students in a majority of the 79 medical schools in the United States. It is intended to provide the oncoming young doctor with a broader realization of the socio-economic aspects of medicine and, it is hoped, will demonstrate to him his duties and responsibilities not only as a physician but as a citizen of his community. We extend to the editor and his staff good wishes for success in the future.

MANUSCRIPT EDITING SERVICE ESTABLISHED

To improve medical journalism, the American Medical Writer's Association has recently established the first "Manuscript Editing Service" to be conducted by a medical association in the United States. For a small fee the Association will edit and criticize medical manuscripts up to 5,000 words. Its aim is to help authors carry out the dictum of Sydney Smith: "The writer does the most who gives his reader the most knowledge and takes from him the least time." The Association is a non-profit organization with no salaried officers. Its membership includes a large group of well known medical editors and writers. Principal purpose of the group is "to help maintain and advance high standards of medical literature."

Further details of the new "Manuscript Editing Service" may be obtained from the Secretary, Harold Swanberg, M.D., 209-224, W.C.U. Building, Quincy, Ill.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

BOARD OF TRUSTEES

January 31, 1952

The Board of Trustees of the Society met in the central office Thursday morning, January 31, with all members present. Plans for the new building were discussed with the contractor. Mr. I. W. Myers, legal counsel, was instructed to exercise the option on the lot and to complete the purchase. Funds were earmarked for this purpose.

The Trustees also discussed an exhibit at the State meeting which would depict State Society activities, accepted a recommendation from the AMA in regard to advertising by investment trusts and voted

to send the University of Iowa 100 copies of the Cedar Rapids reprint.

February 10, 1952

The Board of Trustees met again February 10, with all members present. Mr. Myers explained he had been unable to complete the purchase of the lot because the owner has been out of town; Mr. R. P. Uetz said he had changed construction plans so as to make the building fireproof and would have his bid ready within the week. The Trustees decided to hold a telephone conference when the bid was ready, and accept the contract in that manner. They also discussed *Journal* advertising, a luncheon for past presidents at the Annual Meeting and decided to meet again March 16.

EXECUTIVE COUNCIL

January 31, 1952

The Executive Council of the Iowa State Medical Society met Thursday afternoon, January 31, at Hotel Commodore in Des Moines, with the following persons present: Doctors Donald C. Conzett, Ben T. Whitaker, N. Boyd Anderson, Charles H. Cretzmeyer, Matthew T. Morton, Wendell L. Downing, Otis D. Wolfe, Clyde A. Boice, Elias B. Howell, Ivan K. Sayre, Oscar Alden, Robert N. Larimer, Lonnie A. Coffin, John W. Billingsley, Gerald V. Caughlan, and Julian E. McFarland from the Council; Cecil V. Hamilton and William M. Sproul, Iowa Academy of General Practice and Walter L. Bierring, Health Commissioner.

Dr. Bierring was given the floor to present some of the serious problems confronting him. One of these was the Board of Medical Examiners, under which came the displaced physicians' problem; and the others involved the need for help from the profession in bringing the benefits of modern health services to the local level. The Executive Council unanimously approved the efforts of Dr. Woods and his associates for the manner in which they are trying to carry out the objectives of the Board of Medical Examiners.

Dr. Bernard spoke of the different areas in which the State Department of Health had asked our cooperation. Since the Executive Council at a previous meeting had requested the Department to ask for such help, it was voted that the aid should be given and that special committees should be appointed to do it if there were not existing ones which could serve.

The Executive Council authorized the Speakers' Bureau to cooperate with private health groups in their educational programs but not in their fund raising activities. The problem of providing local care for crippled children was referred to the Legislative Committee for study.

Dr. Caughlan spoke on the necessity for supporting candidates for office whose philosophy is compatible with the ideals and purposes of the medical profession.

Dr. Bernard mentioned the difficulties in two counties over the question of osteopathic membership on hospital staffs. A special committee was appointed to study this and report back at the next meeting of the Executive Council.

Dr. Larimer reported on the prospect of a new building for the State Society.

Last matter discussed was the audit of physicians' incomes by the Bureau of Internal Revenue and its

attitude on division of fees. Dr. Hamilton and Dr. Sproul spoke for the general practitioner who works up the case, assists in the surgery and performs the after care. The code of medical ethics is vague on this point and if was decided that an elaboration should be prepared, stating what has seemed to be in the best interests of the patient in this respect.

February 10, 1952

The Executive Council held its next meeting on Sunday, February 10, at Hotel Commodore. Present were Doctors Conzett, Whitaker, Larimer, Coffin, Billingsley, Braunlich, McFarland, Anderson, Hall, Cretzmeyer, Downing, Boice, Howell and Sayre of the Council; with Doctors Hamilton and Sproul from the general practitioners' group. Dr. Bernard reported on the present status of the preceptor program and the Executive Council voted to have a committee appointed to work with the University in selecting preceptors and acting as advisors.

The elaboration of the code of medical ethics was next studied and unanimously approved. It was decided to publish this in the next issue of the *Journal*. It was also voted to cooperate with the State Department of Health in four rural health congresses.

COUNCIL

January 31, 1952

The Council of the Iowa State Medical Society met Thursday morning, January 31, at Hotel Commodore in Des Moines, with the following members present: Charles H. Cretzmeyer, Matthew T. Morton, Wendell L. Downing, Otis D. Wolfe, Clyde A. Boice, Elias B. Howell, Ivan K. Sayre and Oscar Alden. Meeting was called to order at 10:30 by Dr. Wolfe. Dr. Raymond R. Rembolt explained the State Services for Crippled Children provided by the University, and Mr. Harold Hymans spoke on the same subject in connection with the Iowa Society for Crippled Children and Adults.

The preceptor program was discussed in detail; the report on the Congress on Industrial Health was presented by Dr. Raymond F. Frech of Newton, and the meeting adjourned for lunch and a later meeting with the Executive Council.

COMMITTEE ON MATERNAL AND CHILD HEALTH

March 2, 1952

The Committee on Maternal and Child Health met in the central office Sunday morning, March 2, with three members present. They were Doctors Howard A. Weis, Robert H. McBride and Lee F. Hill. The others were unable to attend because of bad weather. Dr. Madelene Donnelly from the State Department of Health was also present.

The members felt there should be a cooperative committee composed of representatives from the Iowa State Medical Society, Iowa State Department of Health and Iowa State Department of Public Instruction, to work out a good health program for the state. They also approved of a program for school health proposed by the chairman of the committee; they felt it would be wise to discuss the problem with the Iowa Academy of General Practice and to have a member of that Academy meet with them. The status of the maternal death survey was presented by Dr. Weis and the meeting adjourned.

President's Page

During the past week your Public Relations Committee met with the members of the Board of Control and Dr. Charles C. Graves, Jr., their medical consultant. They are asking our help and suggestions in operating their six institutions specifically concerned with the care of the insane, the feeble minded and the epileptic. We learned that there are 6,000 patients in the four mental hospitals who are designated as insane and 3,500 mental defectives, in which are included 450 epileptics, in the institutions of Glenwood and Woodward.

In order to see the actual operation of one of these institutions, I spent a day with Dr. Graves at Woodward. My overall impression was that, considering the paucity of personnel and material, they are doing a splendid job of caring for these unfortunate charges of ours. Woodward is presently operating without a medical superintendent although Dr. Grace M. Sawyer is functioning well in an interim status. The other five doctors on duty are all displaced physicians. In meeting them I was favorably impressed with their sincerity, friendliness and apparent professional ability. Nevertheless the Board of Control is exerting every effort, thus far without success, to find a qualified physician for the position of superintendent.

In scanning their payrolls for non-professional as well as professional employees, I was amazed to see the low scale of salaries paid. It is small wonder that there is inefficiency of operation in many departments.

It was apparent that we of the profession have a twofold responsibility in this problem. In the first place, as tax paying citizens we must acquaint ourselves with the problems of these institutions and the inadequacies that exist. We must be prepared to work for an increase in the operating budgets and possibly to defend the necessity for proper care of our unfortunates at a time when as a people we are playing the role of paternal benefactors throughout the world.

Our second responsibility is in offering ourselves in a purely professional capacity wherever our talents can be used. This latter suggestion is to be given a trial at one of the institutions concerned within a few weeks. I sincerely hope that those living in the vicinity will attend the meeting and offer suggestions and, more important, be willing to give some professional time if it seems desirable.

The Board of Control has given us a challenge wherein the profession can not only be of tremendous service but where we can further strengthen our relationship with an always critical public.

A handwritten signature in dark ink, appearing to read "Donald Sawyer". The signature is stylized with a large, looping initial "D" and a long, sweeping underline that extends to the right.

President

General Manager's Page

ANNUAL MEETING

The annual Stockholder's meeting of the Iowa State Medical Society will be held in the Hotel Fort Des Moines April 27 at 4 p.m. This is an important event for every member of the society.

HOUSE OF DELEGATES

The governing board of your Society—the House of Delegates (Board of Directors)—is composed of delegates, "one for every 25 members and one for each major fraction thereof." The House determines policies and establishes rules and regulations for the conduct of the Society. The house also elects the officers of the State Society, and—through various committees appointed by the President and approved by the House—carries on the activities of the Society. The sessions of the House are open to all members of the Society.

TAKE TIME OUT

The majority of the stockholders are not conversant with the actual methods by which our organization functions. Why not take time out *this* year and attend the meetings of the House and receive this information firsthand? You are more than welcome and I am sure your delegate will appreciate your suggestions and advice.

PROGRAM, EXHIBITS, GOLF

The usual excellent scientific program is prepared. The various exhibits both scientific and commercial are so numerous that additional space is necessary to accommodate them. The annual golf tournament will be held Sunday.

We urge you to attend this meeting. You owe it to your Society to become better acquainted with the progress that is being made, its organizations and program, and above all, *to know your Society better.*

R. D. Bernard, M.D.

General Manager

BLUE CROSS



BLUE SHIELD

TELL HER TO BE SURE YOU'VE HAD
EVERYTHING YOU'VE GOT COMING ON
BLUE CROSS



Three representatives of Iowa Medical Service (Blue Shield) attended the second annual Blue Cross-Blue Shield Hospital and Physician Relations Conference, February 28-29 at the Knickerbocker Hotel, Chicago. Those representing Iowa Medical Service were Don L. Taylor, Director of Physician Relations and two field representatives of the Department of Physician Relations—Gerald Buckles and Douglas Majury. The two Blue Cross Plans were represented by Mr. F. P. G. Lattner, Executive Director, Hospital Service, Inc. and Mr. Robert Clarey, who has charge of hospital relations. The representatives of Associated Hospital Service, Inc., of Sioux City, were Mr. Richard Glenn, Executive Secretary, and O. E. Olson, who has charge of hospital relations for that Plan.

Mr. Lattner and Mr. Taylor appeared before the conference as speakers. The theme of the session was "Planning Effective Professional Relations." The greatest emphasis was placed on the need of having good understanding and cooperation of Blue Cross-Blue Shield by the medical profession. This is not to say the importance of hospital relations was overlooked. Practically every Blue Cross-Blue Shield Plan now has some type of hospital physician relations program. It was recommended by one of the speakers that in states where Blue Cross-Blue Shield function jointly, physician relations departments should be conducted through the Blue Shield Plan. This is the method employed here in Iowa Medical Serv-

ice. Blue Shield handles physician relations for the two Blue Cross Plans.

The importance of Blue Cross and Blue Shield remaining close to their parent organizations was stressed by several of the speakers. A few expressed the belief that some plans seemed to be inclined to stray from their creators—the doctors and hospitals—and commented that if and when this occurs to any great extent, it will eventually cause the plans to be doomed to failure.

The main purpose in holding these national Blue Cross-Blue Shield Hospital Physician Relations Conferences is to give the various plans an opportunity to exchange ideas and experiences. This was certainly accomplished at this conference because all of the parts of a good hospital physician relations program were thoroughly discussed.

BLUE SHIELD MONTHLY STATISTICS

January, 1952

| | |
|------------------------------------|--------------|
| Blue Shield Members | 315,445 |
| Claims Processed for Payment | 5,299 |
| Amount Paid in Claims | \$173,940.65 |

TECHNICAL EXHIBITS

Des Moines Annual Meeting

- A. S. Aloe Company.
- N. P. Benson Optical Company.
- Burroughs-Wellcome and Company.
- Ciba Pharmaceutical Products, Inc.
- Des Moines Coca Cola Bottling Works.
- Doho Chemical Corporation.
- C. B. Fleet Company, Inc.
- H. G. Fisher and Company.
- General Electric X-Ray Corporation.
- Hoffmann-LaRoche, Inc.
- Holland-Rantos Company, Inc.
- House of Vision, Inc.
- Investors Diversified Services, Inc.
- Irwin, Neisler and Company.
- Kremers-Urban Company.
- Lanteen Medical Laboratories, Inc.
- Lederle Laboratories Division.
- Eli Lilly and Company.
- J. B. Lippincott Company.
- M and R Laboratories.
- Maico Company.
- Mead Johnson and Company.
- Medco Products Company.
- Medical Protective Company.
- Monarch Life Insurance Company.
- V. Mueller and Company.
- National Dairy Council.
- National Drug Company.
- Ortho Pharmaceutical Corporation.
- Parke, Davis and Company.
- Pet Milk Company.

- Charles Pfizer and Company.
- Phillip Morris and Company, Ltd.
- Physicians and Hospitals Supply Company.
- Picker X-Ray Corporation.
- Professional Management.
- A. H. Robins Company, Inc.
- Sandoz Chemical Works, Inc.
- W. B. Saunders Company.
- Schering Corporation.
- G. D. Searle and Company.
- Security Laboratories.
- Smith-Dorsey Company.
- E. R. Squibb and Sons.
- Standard Chemical Company.
- Sutliff and Case Company, Inc.
- United Medical Equipment Company.
- U. S. Vitamin Corporation.
- Ulmer Pharmacal Company.
- Upjohn Company.
- Williams Surgical Supply.
- Winthrop-Stearns, Inc.
- Zemmer Company.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a.m.

THE DOCTOR'S REPORT

- April 3.....Self-Help for Handicapped People
- April 10.....Psychiatric Treatment in Hospitals
- April 17..Psychotherapeutic Process in Psychosomatic Disease
- April 24.....Psychiatric Aspects of Ageing

WSUI—Tuesdays at 11:45 a.m.

GOLD MEDAL DOCTORS

- April 1.....George R. Minot
- April 8.....Anton J. Carlson
- April 15.....Henry A. Christion
- April 22.....Isaac Arthur Abt
- April 29.....Seele Harris

NATIONAL MEDICAL TECHNOLOGISTS CONVENTION

The American Society of Medical Technologists will hold its twentieth annual convention June 22-26 in Portland, Ore. Lectures are open to anyone in the medical profession.

TELEVISION SCHEDULE

WOI—TV at 9:30 p.m.

- April 9.....Headache
- April 23.....Child Behavior

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. HOWARD W. SMITH, Woodward

President-Elect—MRS. J. DONALD HENNESSY, 205 Frank St., Council Bluffs

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

LINES FROM THE PRESIDENT

During the past year, I have read the *Journal of The American Medical Association* and the *Journal of the Iowa State Medical Society* more diligently than ever before. I am learning the AMA story which Dr. Cline in his monthly messages so vividly describes.

I am learning more about the ever expanding services of our own State Medical Society. These services are not only available to the medical profession but to the public as well. When doctors' wives are well informed about the activities of the county, state and national medical societies, they can intelligently tell the people in their local community that the private practice of medicine provides our country with the best medical care.

I recommend that you read the President's Page in the *Journal of the American Medical Association*. Dr. Cline has a special message in the January 19 issue. The six papers that were presented at the Fourth Annual Medical Public Relations Conference December 2-3, 1951 in Los Angeles, Calif. are published in the February 2 issue of the *Journal of the American Medical Association*. They are excellent and should be read by Auxiliary members as well as the doctors. Reports of the conference are also published in the January and February issues of the *Journal of the Iowa State Medical Society*.

I also urge you to read the President's Page and the General Manager's Page in the *State Journal*. Please note the information regarding the Speakers Bureau for lay people on page 70 in the February issue. We can make good use of the Speakers Bureau in developing our health education programs on the local level.

Reports of the county auxiliary presidents and state officers are coming in. It is gratifying and stimulating to read about the excellent work that is being done by county auxiliaries. Promoting public relations, studying legislation, developing health education programs, sponsoring student nurse recruitment, craft and hobby shows and serving on the many health organization boards, besides other organizations, are some of the many activities in which doctors' wives are engaging. There are three Future Nurses Clubs in three Iowa high schools at the present time. By the

way, the Presidents-Elect of the Woman's Auxiliary from Oklahoma and New Jersey have written to me for information regarding Future Nurses Clubs here in Iowa. It was a pleasure to tell them what we are doing in Iowa.

Reports of county presidents and state officers will be compiled in mimeograph form for distribution at the Annual Meeting. Experience has proved to us that a copy of each report should be filed in a note book for each county and state officer for permanent record. It will be helpful for the next president or officer. This procedure makes for continuity and progressively constructive Auxiliary work.

I take this opportunity to thank each state officer, county president and auxiliary member for the full cooperation you have given me this past year. Each one of you have helped to promote the growth of our Auxiliary. There is strength in numbers and our combined efforts assure success.

I am looking forward to seeing you at our Annual Meeting.

MRS. HOWARD W. SMITH, *President*

DEADLINE CHANGE

The deadline for material intended for publication has been changed to the seventh of the month which will make it necessary for all items to be in the hands of the Publication Chairman not later than the fourth of the month. All material should be type-written and double-spaced.

MEMO ON THE ANNUAL MEETING IN DES MOINES

April 28-30

Reservations must be made in advance through the Chairman, Mrs. Harold J. McCoy, 3411 Iola Avenue, Des Moines.

Breakfast tickets will be \$1.50; luncheon tickets, \$1.75. It is hoped that a cocktail party or social hour can be arranged preceding the banquet on April 29, but details have not been completed at this writing.

Those in charge of the program of business meetings are: Mrs. Lester R. Hegg, Rock Valley,

Chairman; Mrs. Loyd K. Shepherd, Des Moines; Mrs. Clair H. Mitchell, Indianola; Mrs. Edward B. Hoeven, Ottumwa and Mrs. Martin A. Blackstone, Sioux City.

NATIONAL MEETING

The Annual Convention of the AMA and Woman's Auxiliary will be held at the Hotel Stevens June 8-12 in Chicago.

ELECTION OF DELEGATES TO ANNUAL MEETING

Attention County Auxiliary Presidents:

Do not forget to elect delegates to the Annual Meeting! The voting delegates of the Annual Meeting shall be as follows: The president of each county auxiliary, the officers and chairmen of standing committees of this auxiliary and one representative from each county auxiliary for each 25 members or major fraction thereof in good standing. Each auxiliary shall be entitled to at least one voting delegate in addition to its president. Section 3, Article IX, By-Laws Woman's Auxiliary to the Iowa State Medical Society.

NATIONAL RURAL HEALTH CONFERENCE

The Seventh National Conference on Rural Health was held February 29 to March 1, Denver, Colo. Sponsored by the AMA Committee on Rural Health, representatives of farm organizations and professional groups convened to discuss problems of rural health improvement.

The 600 who attended the Seventh Conference to consider the theme "Help Yourself to Health" were greatly encouraged in regard to the future. The speakers were experts in their various fields. Organizations represented included Health Education Consultants, Home Demonstration, Council on Rural Health, the National Grange, American Farm Bureau Federation, Associated Women of the American Farm Bureau Federation, National Milk Producers Federation, American Agricultural Editors Association, the AMA and the Woman's Auxiliary to the AMA, Dr. John W. Cline, President of the AMA and Mrs. Harold F. Wahlquist, President of the Women's Auxiliary to the A.M.A.

Dr. Cline recommended the following requisites for a program of rural health: (1) Immunize against preventable diseases; (2) build more and better hospitals in rural areas which need and can support them; (3) educate farm folk about proper eating habits in order to build healthy bodies and to avoid nutritional disturbances and (4) start home nursing and first aid programs. The framework of such a program

should be determined in the Denver Conference for the farm people of America, always strongly independent, have the power to develop the best health program in the world.

Mrs. Harold F. Wahlquist concurred with Dr. Cline's views. She stressed consideration of the individual and his rights, the need for creative thinking and emphasis on moral values which should be passed on to the children and the immediate need of translating these concepts to the community. Communities must take a more realistic and objective measurement of their health needs. Good health is a gift of God and each individual should protect it.

MRS. LONNIE A. COFFIN,
Councilor, 8th District

COUNTY AUXILIARY ACTIVITIES

A luncheon meeting for the Woman's Auxiliary of the Polk County Medical Society was held February 22 in Des Moines. Dr. Tom B. Throckmorton, President of the Polk County Medical Society, gave a vivid talk on the topic "The Country Doctor As I Knew Him." Mrs. Eugene Penn was the guest vocalist. Mrs. Robert W. Hoffman, President, announced that the Polk County Auxiliary will sponsor the Easter Seal Campaign and the annual bazaar for crippled children. She stressed the fact that the State Medical Office will furnish speakers to clubs to promote the subject of "Today's Health."

MRS. WILLIAM J. MORRISSEY

The Webster County Medical Auxiliary met February 20 for a luncheon meeting in the Fort Dodge Room of the Waukonsa Hotel, Fort Dodge. Plans were made to sponsor the Craft and Hobby exhibit and sale in connection with the Iowa Society for Crippled Children and Adults. The exhibit and sale will be May 6-8.

MRS. MARTIN VAN PATTEN

PERSONALS

Mrs. Howard W. Smith, State President of the Auxiliary, has been elected to the executive committee of the Iowa Division of the American Cancer Society.

Mrs. L. R. Hillyard of Ames is the new President of the Iowa Health Council and Mrs. Charles W. Maplethorpe of Toledo is the Treasurer. The Health Council is composed of representatives from statewide professional and voluntary health agencies and other state organizations interested in health and county health councils. Its purpose is to improve health in Iowa.

STATE DEPARTMENT OF HEALTH

Walter L. Biering

PSITTACOSIS

Psittacosis (Parrot fever) has been found among parrots, parakeets and macaws on several bird farms in Florida since the first of this year. The first case was reported early in January when a Florida veterinarian who suspected psittacosis forwarded a dead parrot through the local health department to the U. S. Public Health Service. Psittacosis virus was found in that bird. Since then the virus has been isolated from 13 other dead birds from five different bird farms. At least one of these bird farms is visited by many tourists each year. Large numbers of tropical birds are known to have been purchased and transported from the infected area.

There have been no human cases of psittacosis reported in Florida. Two known human cases occurred in Minnesota in January. A Minnesota man brought a parakeet home from Florida. One week later the bird became sick and died. Within five days the man's mother and father developed psittacosis and required hospitalization. Both of them recovered following treatment. A more recent report, from Connecticut, of the isolation of the virus from three parakeets that had been imported from Florida is further evidence that the disease has been widely disseminated. The owner of these birds became ill with a disease resembling psittacosis. Laboratory tests on the patient are in progress.

During 1951 six human cases of psittacosis were reported in Chicago. All of these persons had a history of having had recent contact with either parakeets or parrots. One also had attended a pigeon show about two weeks before he became ill.

The only known case of human psittacosis in Iowa occurred in 1945 after the person had been bitten by a parrot. The parrot was subsequently found to have been infected with psittacosis.¹

All birds of the psittacine family—amazons, Mexican double heads, African grays, cockatoos, macaws, parakeets, love birds, lorries and lorikeets—are susceptible to psittacosis. The death rate among infected birds varies. Some infected birds show no manifestations of the disease, but harbor the virus and are potential sources of infection to other birds and man. A very similar and closely related disease, ornithosis, is sometimes found

among pigeons, pheasants, ducks and chickens, but has not been reported in Iowa.

While present day medical treatment has greatly reduced the former mortality rates (18-20 per cent), the period of illness and the possibilities of recurrences or relapses, we still must regard psittacosis as a serious illness.

Since apparently healthy birds may be carriers, it is advisable to destroy birds that have recently come from known infected areas.

Physicians are alerted to the possibility of psittacosis in patients with atypical pneumonia. Blood specimens from suspected human cases may be submitted to the State Hygienic Laboratory at Iowa City for serologic tests. Two specimens of blood—one early in the disease and another five to seven days later will yield more satisfactory results than a single specimen since a rising titre is of definite diagnostic value.

Veterinarians suspecting psittacosis in psittacine birds should contact the State Veterinarian or the State Department of Health.

PUBLIC HEALTH NURSING PROGRAMS

It will be noted that there are 22 counties in which no public health nursing service is available from any local source. A limited amount of service is given to these areas as well as to other areas by nurses employed on a state-wide basis by the Iowa State Department of Health and the State Services for Crippled Children. Services given by the state agencies to the local areas relate primarily to activities associated with communicable disease control and in the interest of children handicapped with orthopedic, heart and diabetic conditions.

County public health nurses are employed by boards of supervisors in cooperation with the Iowa State Department of Health. These nurses provide a generalized service embracing any health problems that may befall a family, regardless of financial circumstances. Communicable disease, maternity, infant, pre-school and school health services and chronic disease, including tuberculosis, venereal disease, cancer, heart and orthopedic nursing are of concern to her. Her chief objective is prevention of illness and promotion of health. She is also available to give bedside nursing on a demonstration basis. She works with physicians and dentists, and coordinates her activities with other agencies to prevent duplication of effort and service.

1. Laubscher, M. C.; Wentzien, A. J.; Jordan, C. F.: Psittacosis in Iowa. J. Iowa M. S., 35:44-46 (February) 1945.

The visiting nurse organizations give generalized public health nursing service within the limits of the city in which they are located. Their service is generalized and similar to that of the county public health nurses, except that in most of these agencies considerable bedside nursing is given. Their service to schools is usually limited to parochial schools since in most of the cities where visiting nurse organizations exist, school nursing is done by nurses employed by boards of education.

The school nurses employed by boards of education for the most part given service to the school age child. The modern concept of school nursing includes, in addition to caring for minor ailments in schools, and visiting homes of children with communicable disease and physical defects, co-operation with medical, social, school and community groups in planning a co-ordinated health program to meet the needs of the school child in relation to his physical and mental health.

Other services given by the public health nurses by official or non-official agencies are modifications of the three types described. Some may be limited to a special condition or age group, however, the basic principles relating to prevention of disease

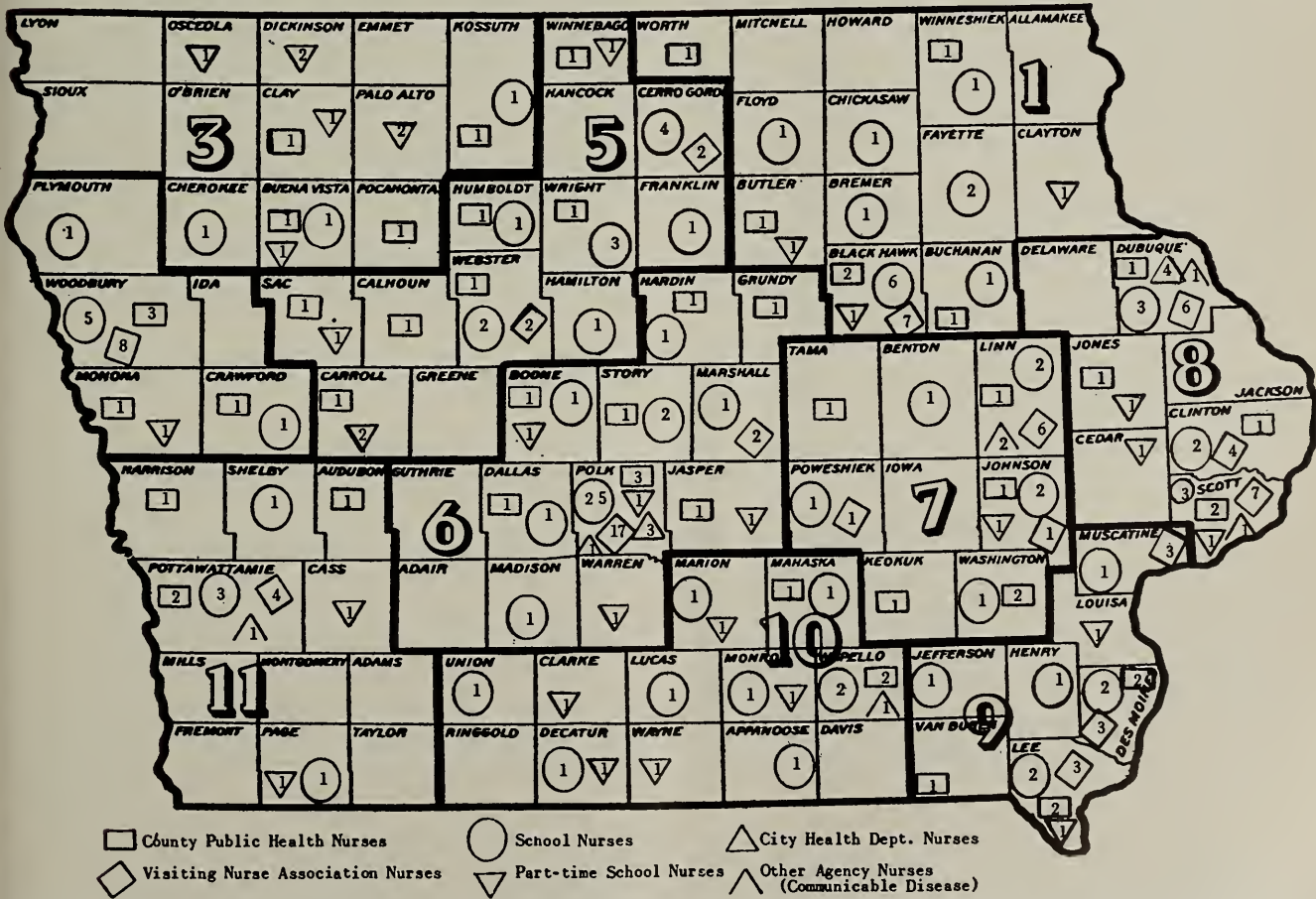
and to promotion and restoration of health apply to all public health nursing wherever it is practiced.

The demand for public health nurses, especially for generalized service, has increased far beyond the supply of available public health nurses. We must look to local communities to provide recruits for nursing if the supply is to satisfy and keep up with the increasing demand.

MORBIDITY REPORT

| Disease | Feb. 1952 | Jan. 1952 | Feb. 1951 | Most cases reported from: |
|-------------------|-----------|-----------|-----------|--|
| Diphtheria | 1 | 8 | 0 | Black Hawk |
| Typhoid Fever | 0 | 2 | 0 | ..... |
| Scarlet Fever | 96 | 45 | 76 | Clinton, Linn, Polk |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 266 | 132 | 72 | Black Hawk, Polk, Wood |
| Whooping Cough | 22 | 5 | 36 | Des Moines, Hamilton |
| Brucellosis | 22 | 19 | 30 | Scattered |
| Chickenpox | 336 | 374 | 409 | Black Hawk, Clinton, Johnson, Linn |
| Influenza | 0 | 0 | 0 | ..... |
| Meningitis men. | 0 | 3 | 7 | ..... |
| Mumps | 418 | 184 | 231 | Black Hawk, Chickasaw, Clinton, Des Moines |
| Pneumonia | 8 | 8 | 4 | Polk (5), Clinton, Davis, Hamilton, each 1 |
| Poliomyelitis | 3 | 2 | 8 | Hamilton, Sac, Scott |
| Rabies in Animals | 21 | 16 | 42 | Carroll, Hancock, Sac |
| Tuberculosis | 63 | 36 | 84 | For the State |
| Gonorrhea | 41 | 25 | 53 | For the State |
| Syphilis | 106 | 151 | 107 | For the State |

IOWA



Public Health nurses engaged in local health service in Iowa according to type of service, exclusive of college nurses and nurses in industry.

Iowa Academy of General Practice

President—Cecil V. Hamilton, M.D., 145 E. 4th St., Garner

President-Elect—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

Vice President—Ivan T. Schultz, M.D., 106 N. Taft St., Humbolt

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

ANNUAL MEETING

The Iowa Academy of General Practice wants to announce to its membership that time has arrived for another annual meeting. As usual, this will be held at the time of the annual meeting of the Iowa State Medical Society in Des Moines. We expect to have luncheon together, hear an excellent talk and transact the annual business, including election of officers, in the Palm Room of Hotel Fort Des Moines at noon on April 28. So save this time. Guests will be welcome to the luncheon and the talk.

OUR SPEAKER

Dr. Ulrich R. Bryner, Salt Lake City, a member of a commission of doctors who surveyed the English medical system, will talk on "Socialized Medicine in England." Dr. Bryner is well qualified to inform us of the plight of general practice in Britain. He is also the treasurer of the American Academy. We know you will find this an interesting and informative talk.

NOMINATING COMMITTEE

Dr. Hamilton has appointed the following members to the Nominating Committee:

Chairman—Dr. Floyd Burgeson, Des Moines
Dr. Robert L. Knipfer, Jesup
Dr. William A. Castles,
Dallas Center

If members have any suggestions for officers for next year, kindly contact the Nominating Committee.

LUNCHEON TICKETS

Tickets for our annual luncheon will be on sale at the registration desk. Bring your wife or other guest.

OUR SCIENTIFIC ASSEMBLIES

It is our plan to present formal postgraduate meetings next winter on September 18, November 13 and January 22, 1953. The committee has already set up a good portion of the programs and as usual, good speakers are being invited. Several have already accepted our invitations. A variety of subjects will be presented, taking up head injuries, headaches, minor and office surgery, neurological diagnosis, office gynecology and others. We always request our speakers to slant their presentations for the general practitioner.

By the way, how about signing up a new member for our Academy. Do you not think we have something valuable to offer?

ROCKY MOUNTAIN CANCER CONFERENCE

July 9 and 10 have been announced as the dates for the Sixth Annual Rocky Mountain Cancer Conference to be held in Denver, Colo., with headquarters at the Shirley-Savoy Hotel. This two-day meeting annually featuring eight outstanding national speakers on new developments in diagnosis and treatment of malignancies is jointly sponsored by the Colorado State Medical Society and the Colorado Division of the American Cancer Society. In addition to the scientific program on July 9, will be given over to a banquet and special entertainment of a non-scientific nature. There is no registration fee for the Conference, which annually attracts a registration of over 700 physicians from the Midwest and the Rocky Mountain states.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE CLINICAL USE OF FLUID AND ELECTROLYTE, by John H. Bland, M.D., Assistant Professor of Medicine, University of Vermont College of Medicine. Philadelphia, W. B. Saunders Co., 1952. Price \$6.50.

DIAGNOSTIC BACTERIOLOGY, A Textbook for the Isolation and Identification of Pathogenic Bacteria, by Isabelle Gilbert Schaub, A.B., Technical Director, Clinical Bacteriology Laboratories, The Johns Hopkins Hospital; Instructor in Bacteriology, the Johns Hopkins University School of Medicine and the Nurses' Training Schools of The Johns Hopkins and Sinai Hospitals; and M. Kathleen Foley, M.A., Instructor in Bacteriology, Department of Biological Sciences, College of Notre Dame of Maryland; Formerly Bacteriologist in Charge of the Diagnostic Bacteriological Laboratory of the Medical Clinic, The Johns Hopkins Hospital. St. Louis, C. V. Mosby Co., 1952. Price \$4.50.

DOCTORS IN BLUE, The Medical History of the Union Army in the Civil War, by George Worthington Adams. New York, Henry Schuman, 1952. Price \$4.00.

FLUID BALANCE, A Clinical Manual, by Carl A. Moyer, M.D., Professor of Surgery, Washington University School of Medicine, St. Louis. Chicago, The Year Book Publishers, Inc., 1952. Price \$3.75.

HIPPOCRATES ON INTERCOURSE AND PREGNANCY, an English Translation of ON SEMEN AND ON THE DEVELOPMENT OF THE CHILD, by Tage V. H. Ellinger, Sc.D., M.D., with an introduction by Allan F. Guttmacher, M.D. New York, Henry Schuman, Inc., 1952. Price \$2.50.

MANAGEMENT OF THE NEWBORN, by Arthur Hawley Parmelee, M.D., Professor of Pediatrics, University of Southern California School of Medicine; Senior Attending Pediatrician, Los Angeles Childrens Hospital; Formerly Clinical Professor of Pediatrics (Rush) College of Medicine, University of Illinois and Attending Pediatrician, Presbyterian and Cook County Hospitals, Chicago. Chicago, The Year Book Publishers, Inc., 1952. Price \$7.00.

POSTURE AND PAIN, by Henry O. Kendall, Director, Physical Therapy Department; Florence P. Kendall, Assistant Director, Physical Therapy Department, and Dorothy A. Boynton, Physical Therapist, Physical Therapy Department, Children's Hospital School, Baltimore. Md. Baltimore, The Williams and Wilkins Co., 1952. Price \$7.00.

PRESCRIPTION FOR MEDICAL WRITING, A Useful Guide to Principles and Practice of Effective Scientific Writing and Illustrations, by Edward P. Jordan, M.D., and Willard C. Shepard. Philadelphia, W. B. Saunders Co., 1952. Price \$2.50.

RHEUMATIC DISEASES, Based on the Proceedings of the Seventh International Congress on Rheumatic Diseases. Prepared by the Committee on Publications of the American Rheumatic Association, Charles H. Slocumb, M.D. Philadelphia, W. B. Saunders Co., 1952. Price \$12.00.

A TEXTBOOK OF ORTHOPEDICS, with a Section on Neurology in Orthopedics, by M. Beckett Howorth, M.D., Clinical Professor of Orthopedic Surgery, New York University Post Graduate Medical School. In association with Fritz J. Cramer, M.D.; Donovan J. McCune, M.D.; A. Wilbur Duryee, M.D.; J. William Littler, M.D.; Wolter A. Thompson, M.D. Philadelphia, W. B. Saunders Co., 1952. Price \$16.00.

BOOK REVIEWS

UNTOWARD REACTIONS OF CORTISONE AND ACTH, by Vincent J. Derbes, M.D., and Thomas E. Weiss, M.D. (Charles C Thomas, Publisher, Springfield, Ill., \$2.25).

This monograph of a lecture series by two authors consists largely of a collection and summarization of the side effects due to ACTH and cortisone that have appeared in the literature. By way of orientation, an early chapter lists the effect on each of the glands

of internal secretion. This leads to an explanation of the electrolyte changes, blood pressure response and the frequent deleterious effects on muscles, bones, skin, gastrointestinal tract and the central nervous system.

In this brief booklet one can quickly find an explanation for some of the troublesome phenomena seen during administration of ACTH and cortisone. —A. G. Lueck, M.D.

PEPTIC ULCER, Clinical Aspects, Diagnosis and Management, edited by David J. Sandweiss, M.D. (W. B. Saunders Co., Philadelphia, \$15.00).

Dr. David J. Sandweiss and 76 other top notch contributors have combined their talents to put out this comprehensive volume on the ulcer problem. The contributors are of the highest caliber. Their discussions are as excellent as humanly possible. As in any volume with many contributors, some sections are more lucid, some more erudite, some more "down to earth" than others, but this volume will stand as a classic for all gastroenterologists and abdominal surgeons and a reliable reference book for all libraries.

The ulcer problem is discussed from many angles—there are sections on anatomy and physiology of the upper gastrointestinal tract, pathogenesis and etiology, diagnosis and differential diagnosis of uncomplicated gastroduodenal ulcer, medical treatment, surgical treatment, ulcer in the young and aged, ulcers other than gastroduodenal complications.

This book rates four stars!—D. A. Glomset, M.D.

PATHOLOGY OF THE FETUS AND THE NEWBORN, by Edith L. Potter, M.D. (The Year Book Publishers, Inc., Chicago, \$19.00).

To the reviewer's knowledge this is the first book published which in a systematic fashion covers the pathology occurring from conception to 12 months after birth. In the past it was necessary to consult the books on gynecological pathology for information concerning of the placenta; works on embryology and teratology were searched for abnormalities of the fetus and texts on pathology and pediatrics for pathological changes in the newborn. Now this information has been collected by Dr. Potter and added to from her own personal experience much to the advantage of the pathologist and pediatrician.

As can be expected, because of the time period in human life under consideration, a great portion of the book is devoted to teratology and congenital defects. There is also, however, ample discussion of inflammations, tumors, etc., which occur during this period.

The material is well organized and presented, the illustrations are of high technical quality and there is adequate bibliographic coverage of the subject matter. This book is highly recommended to all interested in any phase of this subject.—W. Rindskopf, M.D.

SOCIETY PROCEEDINGS

MEETINGS

Blackhawk

The Blackhawk County Medical Society met February 19 at the Elks Club in Waterloo. Dr. Carroll B. Larson, Professor and Head of Orthopedic Surgery at the SUI College of Medicine, spoke on "Diseases of the Shoulder."

Cerro Gordo

Dr. Leon J. Galinsky, Des Moines, spoke on "Co-existence of Tuberculosis with Other Pulmonary Disease" at the February 8 dinner meeting of the Cerro Gordo County Medical Society at the Hotel Hanford in Mason City.

Jefferson

The Jefferson County Medical Society met February 28 at the Turner Hotel in Fairfield. A local dentist explained the fluoridation process for public drinking water, and the county Red Cross blood program was discussed.

Palo Alto

Dr. James E. Black, Emmetsburg, was recently re-elected President of the Palo Alto County Medical Society. Dr. Robert D. Workman, Ruthven, was re-elected Vice President and Dr. Carlyle C. Moore, Emmetsburg, was elected Secretary.

Polk

The Polk County Medical Society will hold its regular meeting April 16 at the Hotel Savery in Des Moines. Dr. Carroll B. Larson, Iowa City, will discuss some phase of Orthopedics.

Scott

Dr. Carroll B. Larson, Iowa City, discussed "The Problem of the Painful Shoulder" at a meeting of the Scott County Medical Society March 4 at the Davenport Outing Club in Davenport.

Washington

The Washington County Medical Society met February 28. Dr. Robert C. Hardin, Iowa City, discussed the planning of a blood bank for the county hospital.

PERSONALS

Dr. A. Reas Anneberg, Carroll, spoke on "Cancer in the Body Politic" at the February 18 meeting of the Carroll Rotary.

Dr. James E. Black, Emmetsburg, has moved to Leeds, a suburb of Sioux City, where he has joined Drs. Keith E. Arnold and Joseph Weidemeier in a partnership practice to be known as the Leeds Clinic.

Dr. Harold M. Bowcock, formerly of the Veterans Hospital, Kecoughtan, Va., has been transferred to the Veterans Hospital at Knoxville. Dr. Bowcock will head the Physical Medicine Rehabilitation Service.

Dr. Dayle N. Crabb, Denison, spoke on "Heart Disease" at a recent meeting of the Denison Kiwanis Club.

Dr. U. J. Collignon, formerly assistant Chief of Medicine at McCloskey Veterans Hospital, Temple, Texas, has become associated in the Council Bluffs Clinic in Council Bluffs. Dr. Collignon specializes in internal medicine.

Dr. Willard V. Ergenbright, Iowa City, has been appointed Chief of the Orthopedics Department at the Veterans Hospital in Iowa City.

Dr. Everett M. George, Des Moines, spoke on "The Treatment of Cerebral Palsy Away from a Medical Center" March 28 in Cleveland, Ohio, as part of a symposium on the Treatment of Cerebral Palsy, presented by the Research Council of the United Cerebral Palsy Association in conjunction with the Pediatric Section of the Academy of Medicine of Cleveland.

Dr. William C. Goenne, Jr. has become associated with Dr. Carl A. Jacobs in Sioux City in the practice of surgery. During the past year, Dr. Goenne was assistant Chief of Surgery at the Madigan General Hospital, Tacoma, Wash.

Dr. Henry H. Gurau has opened an office for the practice of Otolaryngology at 213 Bankers Trust Building, Des Moines.

Dr. Lee F. Hill, Des Moines, spoke on "Prevention of Behavior Problems in Children" at a recent meeting of the Perry Y.W.C.A.

Dr. Clair H. Mitchell, who has practiced in Indianola for 23 years, has begun the practice of medicine in Cincinnati, Iowa. Dr. Robert McGeehon, at present interning at the Iowa Lutheran Hospital, Des Moines, has rented the office formerly occupied by Dr. Mitchell, and will soon begin the practice of medicine in Indianola.

Dr. Robert J. Saunders, who has been associated

with **Dr. Royal G. Anspach** at the Colfax Clinic for three and one-half years, has reported for active duty with the United States Air Force at Gunter Air Force Base, Montgomery, Ala.

DEATH NOTICES

Dr. Fred LeRoy Blair, Sr., 73, Fonda physician, who formerly had practiced in Lytton for 36 years, died at his home in Fonda on February 26 following a heart attack. Dr. Blair was graduated from the State University of Iowa College of Medicine in 1905. He was a former member of the Pocahontas County and Iowa State Medical Societies.

Dr. Gates M. Brown, 78, Dayton physician for 33 years, died March 1 following a brief illness. Born in Ames, he was graduated from the Northwestern University College of Medicine, Evanston, Ill., in 1899. Dr. Brown was a life member of the Webster County and Iowa State Medical Societies at the time of his death.

Dr. Robert John Galvin, 53, practicing Oelwein physician and surgeon, died following a heart attack February 15 at his home. Born in Oelwein, Dr. Galvin was graduated from the St. Louis University of Medicine in 1924. At the time of his death, Dr. Galvin was a member of the Fayette County and Iowa State Medical Societies.

Dr. Joseph Walter Tyrrell, 80, retired Des Moines physician, died of cancer February 27 at the Veterans Hospital in Des Moines. Dr. Tyrrell was graduated from the Drake University Medical College in 1900. At the time of his death he was a life member of the Polk County and Iowa State Medical Societies.

ROSTER OF IOWA PHYSICIANS
IN MILITARY SERVICE

As of February 15, 1952

Ackerman, J. H., Clarksville
(Melbourne, Fla.)Asst. Surg., U.S.P.H.S.
Alberts, M. E., Des Moines
(Des Moines)Lt., U.S.N.R.
Ashby, J. D., Davenport
(Battle Creek, Mich.)Major, A.U.S.
Bartholomew, R. D., Lake City
(Oakland, Calif.)Lt. (j.g.), U.S.N.R.
Bartley, R. L., Sully
(FPO San Francisco, Calif.)Lt., U.S.N.R.
Benge, D. K., Dows
(Ft. Leonard Wood, Mo.)1st Lt., U.S.A.
Braatelen, N. T., Des Moines
(Camp Carson, Colo.)1st Lt., U.S.A.F.
Brown, R. C., Mason City
(Kansas City, Kan.)1st Lt., A.U.S.
Camp, J. R., Thompson
(San Diego, Calif.)Lt. (j.g.), U.S.N.R.
Carson, R. W., Winterset
(APO San Francisco, Calif.)1st Lt., A.U.S.
Coyne, K. M., Burlington
(FPO San Francisco, Calif.)Cmdr., U.S.N.R.

Dalager, R. D., Ottumwa
(Annapolis, Md.)U.S.N.R.
Davidson, M. C.
(APO New York, N. Y.)Lt. Col., A.U.S.
Davis, S. K., Des Moines
(Seattle, Wash.)
Donahoe, J. F., Fort Dodge
(Camp Atterbury, Ind.)1st Lt., U.S.A.F.
Fitch, R. E., Des Moines
(Bangor, Me.)1st Lt., U.S.A.F.
From, Paul, West Des Moines
(San Antonio, Texas)1st Lt., U.S.A.F.
Gladstone, W. S., Jr., Iowa City
(Crestview, Fla.)U.S.A.F.
Greco, D. J., Des Moines
(APO San Francisco, Calif.)1st Lt., A.U.S.
Gustafson, J. E., Des Moines
(Camp Roberts, Calif.)1st Lt., A.U.S.
Jensen, K. V., Newton
(San Antonio, Texas)1st Lt., U.S.A.F.
Johnson, A. A., Jr., Council Bluffs
(Fort Worth, Texas)1st Lt., U.S.A.F.
Johnson, F. N., Madrid
(San Antonio, Texas)1st Lt., U.S.A.F.
Johnson, M. H., Iowa City
(Tacoma, Wash.)Capt., A.U.S.
Keil, P. G., Des Moines
(Bangor, Me.)Major, U.S.A.F.
King, R. E., Des Moines
(APO San Francisco, Calif.)Capt. A.U.S.
Krause, R. E., Ottumwa
(Camp Atterbury, Ind.)1st Lt., A.U.S.
Kruse, R. H., Conrad
(Pearl Harbor, T. H.)Lt., U.S.N.R.
Kurth, R. J., Waterloo
(Panama City, Fla.)Capt., U.S.A.F.
Landis, S. N., Des Moines
(Shreveport, La.)Major, U.S.A.F.
Leiter, E. R. K., Des Moines
(Bangor, Me.)Capt., U.S.A.F.
McCrary, W. A., Lake City
(APO San Francisco, Calif.)Capt., A.U.S.
Mangan, J. T., Forest City
(San Diego, Calif.)Lt. (j.g.), U.S.N.R.
Merkel, B. M., Des Moines
(Bangor, Me.)Col., U.S.A.F.
Mitchell, R. C., Iowa City
(Yorktown, Va.)Lt., U.S.N.R.
Montgomery, A. E., Jefferson
(APO San Francisco, Calif.)Lt. Col., A.U.S.
Mulder, L., Sioux Center
(Sioux Falls, S. D.)Capt., U.S.A.F.
Neagle, P. E., Dubuque
(APO San Francisco, Calif.)1st Lt., A.U.S.
Nicholson, R. W., Paton
(APO Seattle, Wash.)1st Lt., A.U.S.
Nordin, C. A., Des Moines
(Lackland Field, Texas)1st Lt., U.S.A.F.
Odell, J. E., Iowa City
(Seattle, Wash.)Lt., U.S.N.
Piburn, M. F., Preston.....1st Lt., A.U.S.
Ruble, R. L., Nevada
(Camp Chaffee, Ark.)A.U.S.
Saunders, R. J., (Colfax)
(Montgomery, Ala.)1st Lt., U.S.A.F.
Schultz, M. H., Waterloo
(Weaver, S.D.)Capt., U.S.A.F.
Shaffer, F. J., Iowa City.....Col., U.S.A.F.
Simonsen, M. N., Sioux City
(Oakland, Calif.)Lt. Cmdr., U.S.N.R.
Smith, C. B., Iowa City
(Fort Jackson, S. C.)Capt., A.U.S.
Stutsman, R. E., Washington
(San Diego, Calif.)Cmdr., U.S.N.
Tempel, P. F., Steamboat Rock
(APO San Francisco, Calif.)Capt., A.U.S.

Thistlewaite, E. A., Des Moines
(Riverside, Calif.)1st. Lt., U.S.A.F.
Thomas, J. H., Rock Rapids
(APO San Francisco, Calif.)Capt., U.S.A.F.
Tice, W. K., Iowa City
(Kansas City, Kan.).....1st Lt., A.U.S.
Tyler, D. E., Shenandoah
(Great Lakes, Ill.).....U.S.N.R.
Vincent, J. F., Fort Dodge
(Langley A.F.B., Va.)Capt., U.S.A.F.
von Lackum, L. S., Oelwein
(Great Lakes, Ill.)Lt., U.S.N.R.
Waldmann, E. B., Council Bluffs
(Santa Ana, Calif.)Lt., U.S.N.R.
Walz, D. V., Le Mars
(Sioux Falls, S. D.)1st. Lt., U.S.A.F.
Wehrmacher, W. H., Iowa City
(Oceanside, Calif.)U.S.N.R.
Wheeler, R. A., Des Moines
(Camp Crowder, Mo.)1st. Lt., A.U.S.
Wiedemeier, J. L., Sioux City
(Ft. Sam Houston, Texas)1st. Lt., A.U.S.
*Wilkins, D. S., Iowa City
(APO San Francisco, Calif.)Capt., A.U.S.
Woolfolk, J. H., II, Waterloo
(Weaver, S. D.)U.S.A.F.
Zeilenga, R. H., Orange City
(Madison, Wisc.)1st. Lt., U.S.A.F.

CLINICAL ACTIVITIES OPEN TO VISITING PHYSICIANS

The following is a program of the clinical activities of the SUI College of Medicine which would be of special interest to visiting physicians. Physicians are welcome to attend any of the meetings and to take part in the discussions which may come up at that time.

Monday

7:00- 8:00 a. m. Ward walks, Otolaryngology.
8:00- 4:00 p. m. Out-patient and ward walks, Orthopedics.
8:00- 9:00 a. m. Clinical Conference, Otolaryngology.
1:00- 2:00 p. m. Seminar, Otolaryngology.
4:30- 5:30 p. m. Review of x-rays, Urology—Resection Room.

Tuesday

8:00- 4:00 p. m. Out-patient and ward walks, Orthopedics.
8:00- 9:00 a. m. Clinical Conference, Otolaryngology.
1:00- 2:00 p. m. Seminar, Otolaryngology, Lecture Room 3, Med. Lab.
4:30- 5:30 p. m. Review of x-rays, Urology—Resection Room.

Wednesday

7:00- 8:00 a. m. Ward walks, Otolaryngology.
8:00- 4:00 p. m. Out-patient and ward walks, Orthopedics.
8:00- 9:00 a. m. Clinical Conference, Otolaryngology.
1:00- 2:00 p. m. Seminar, Otolaryngology.
1:00- 2:30 p. m. Thyroid Clinic, Room E-418, General Hospital, Depts. of Medicine, Surgery, Radiology & Physiology.
1:00- 3:00 p. m. Pediatric Grand Rounds, Lecture Room, Childrens Hospital.

3:30- 4:30 p. m. Clinical Pathological Conference, Room E-331, General Hospital.
4:30- 5:30 p. m. X-ray review, Urology—Resection Room.

Thursday

8:00- 9:00 a. m. Clinical Conference, Otolaryngology.
8:00- 9:00 a. m. Clinical Conference, Orthopedics.
9:00-10:00 a. m. Pathology Seminar, Orthopedics.
10:00-11:00 a. m. Post-operative Conference, Orthopedics.
12:30- 1:30 p. m. Hematology Conference, Room E-418, General Hospital, Dept. of Medicine.
1:00- 2:00 p. m. Seminar, Otolaryngology.
1:00- 3:00 p. m. Combined pathological and x-ray conference, Orthopedics, Lecture Room 3, Med. Lab.
3:30- 4:30 p. m. Medical-Surgical Conference, Room E-331, General Hospital.
4:30- 5:30 p. m. *Seminar, Ophthalmology.
4:30- 5:30 p. m. Seminar, Obstetrics and Gynecology.
6:30-10:00 p. m. Grand Rounds, Urology, Ward C-41.

*Excluding the first Thursday of each month.

1:00 p. m. General and Orthopedic Surgery
Pathological Conference — **LAST THURSDAY OF EACH MONTH.**

Friday

7:00- 8:00 a. m. Ward walks, Otolaryngology.
8:00- 4:00 p. m. Out-patient and ward walks, Orthopedics.
8:00- 9:00 a. m. Clinical Conference, Otolaryngology.
11:00-12:00 a. m. Pediatric Clinic.
12:30- 1:30 p. m. Staff Research Conference, Dept. of Medicine, Room E-405, General Hospital.
1:00- 2:00 p. m. Staff meeting, Obstetrics and Gynecology.
1:00- 2:00 p. m. Seminar, Otolaryngology.
2:00- 3:30 p. m. Chest Clinic, Room E-405, General Hospital, Depts. of Medicine and Surgery.
4:00- 5:00 p. m. Tumor Conference; Gynecology and Radiology.
4:30- 5:30 p. m. Review of x-rays, Urology—Resection Room.

Hearing Clinic held once a month. Notice of exact date and time will be sent upon request.

Saturday

9:00-10:00 a. m. Medicine Grand Rounds.
9:00-10:00 a. m. Pathological Conference, Gynecology.
9:00-12:00 a. m. Clinical Conference, Orthopedics.
9:00-10:00 a. m. Review of interesting x-rays of the week, Urology.

Sunday

10:00-12:00 a. m. Didactic Seminar, Otolaryngology.

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, MAY, 1952

No. 5

RECENT DEVELOPMENTS IN THERAPY FOR ESSENTIAL HYPERTENSION

WALTER M. KIRKENDALL, M.D.
IOWA CITY

ONE OF THE most interesting developments in the field of hypertension has direct bearing on the problem of therapy, namely the increased awareness that hypertension is a symptom and within its boundaries lurk many completely different diseases. In the last few years, this attitude has been responsible for the development of several new and possibly more satisfactory tests for pheochromocytoma,¹ as well as several attempts to classify the large group of hypertensives now known as essential.²

It is important at the outset of a discussion of this sort to recognize the limitations that confront us. First, since the cause of essential hypertension is not known, therapy has necessarily been directed toward amelioration of one of its main signs, the elevated pressure and prevention of the widespread vascular sclerosis often accompanying it. Second, knowledge of the life history of essential hypertension is as incomplete as our information about its causes. As a result, and because of the length of time which must transpire before significant differences become manifest, evaluation of long-term therapy in hypertension is extremely difficult. A list of the drugs and surgical procedures advocated as treatment after short trials only to be later recognized as long-term failures would make a large volume.

Because therapy is empiric and in general we have little knowledge as to whether we prolong the life of patients, it is easy to develop a philosophy of fatalism regarding this disease. However, it is a matter of fact that with the means at hand today we can relieve symptoms of the disorder, stop progress of acute necrotizing arteriolitis, reduce papilledema, relieve heart failure and do a tremendous amount to relieve the anxiety that

these individuals develop concerning their illness. In doing these things, in almost every case, the blood pressure is lowered.

It is not known whether the elevated pressure seen in this disease is a necessary compensatory effect to some underlying disease process or whether it is an unnecessary, deleterious response to a disorder which in itself might not cause the havoc which essential hypertension does. Nevertheless, in the past, many have thought that efforts to lower blood pressure might, at the same time, lower blood supply to essential organs and thus compound the trouble. The result of physiologic studies on therapeutic measures for this disease indicate that those fears, particularly concerning renal ischemia, were not well founded.³ Indeed, despite measures which rather acutely lower blood pressure to the vicinity of normal, adjustments seem to occur in vital areas which insure that ischemia will not take place. In a word, in most instances peripheral resistance is reduced commensurate with the fall in blood pressure. This fact gives us a reasonable approach to therapy for one may continue trying to lower blood pressure knowing that he will not necessarily cause severe ischemia of the tissues if he is successful.

In the remainder of the paper I would like to discuss several specific agents used for treatment of hypertension.

There has been a renaissance of interest in veratrum viride in the last five to six years.⁴ During this same time, more purified products of the alkaloid have been made commercially available and methods of standardization of the product in mammals have been developed.⁵ Consequently the effect of veratrum is more easily predictable and the incidence of side reactions is slightly decreased. Recent reports indicate that the effect of administration of the drug to a hypertensive usually results in a fall in blood pressure with essentially normal blood flow through muscular, renal and hepatic-portal areas. This is true despite the fact that these values are reduced for a few moments initially. The cardiac output is not decreased in long term therapy.⁶ These findings make it likely that the effect of

Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

Department of Internal Medicine of the College of Medicine of the State University of Iowa and the University Hospitals, Iowa City.

veratrum on blood pressure is the result of decreased peripheral resistance.

The site of action of this group of drugs is apparently in the brain and their peripheral action is a reflex one through the sympathetic nervous system.⁷ The sympathetic and parasympathetic nervous systems are closely related within the brain and this probably accounts for the fact that with effective dosages of veratrum compounds stimulation of both systems is seen. The signs and symptoms of vagal overactivity constitute many of the undesirable effects associated with veratrum therapy. Thus it is found that bradycardia, nausea, vomiting, salivation and burning in the throat and substernal regions often accompany full doses of the drug. These are probably due to vagal stimulation. A second set of side actions seen with these compounds are probably secondary to their hypotensive action, being more likely to occur when the blood pressure drop is excessive or too rapid. These symptoms include dizziness, paresthesias, weakness and occasionally collapse and fainting.

At University Hospitals we have been using for the last six months, Veraloid, a purified product of veratrum which is standardized in the dog. Our experiences have paralleled those of Wilkins⁸ who has been using the drug for longer periods of time. In the vast majority of hypertensive patients, Veraloid in doses of 6 to 18 mg., divided into four doses over the day, will cause a pronounced initial drop in blood pressure. Our policy is to start with the lower dose, raising it as the blood pressure response is lost until some of the toxic symptoms appear. The dose is then dropped back to the largest one not associated with undesirable side effects. If the hypotensive effect is still apparent the patient is continued at this dosage level indefinitely. However, if as we usually find, the toxic and therapeutic doses are in the same range, we attempt to combat the undesirable symptoms with atropine, Banthine or Dramamine. By combining these drugs we find that it is possible in some otherwise refractory individuals to maintain significantly lower blood pressure. In many cases, however, we have been unable to maintain the initial improvement.

I have been impressed by the ability of veratrum to acutely lower blood pressure, to relieve headache, to abolish facial flushing and to impart a feeling of well being to the patients so treated. In addition, in some hypertensives symptomatic improvement is associated with return of appetite and a steady gain of real weight. These changes have been noted in both moderately severe benign hypertensives and those suffering from the malignant variety, where in addition, we have observed papilledema to subside and retinal hemorrhages and exudates to disappear. However, the long term management of hypertensives with veratrum alkaloids is not nearly so impressive. Problems of toxicity, return of hyper-

tension to previous levels and return of symptoms make the drug considerably less valuable. It is important to recognize that the effective dose varies widely in different persons, that the margin between the hypotensive and toxic doses usually is small and the response of the patient to an effective dose may vary from day to day or at different times of the day. Nevertheless, despite these objections, some authors have stated that veratrum products are the most effective hypotensive drugs available today for the treatment of sustained, severe, diastolic hypertension⁹.

"In the absence of clear-cut evidence regarding the extent and manner in which the sympatho-adrenal system is involved in the development and maintenance of essential hypertension, there is little theoretical basis for the treatment of this condition by sympathetic blockade."^{12 b} However, continued reports of partial, although highly variable, relief obtained from surgical sympathectomy¹⁰ have kept alive the hope that chemical adrenergic-blockade might provide similar benefits.

Since chemical interruption of sympathetic impulses may be effected at any site from the brain to their point of action, it is obvious that a number of agents may be used for this type of medical sympathectomy. Several of the drugs so used have multiple sites of action to explain their pharmacologic effect. Thus dihydroergocornine and other hydrogenated ergot alkaloids probably produce their hypotensive effect as the result of sympatholytic inhibition of peripheral vasoconstriction and central depression of the postural cardiovascular responses.¹¹ Dibenzamine, on the other hand, blocks the excitatory response to both circulating epinephrine and sympathetic nerve activity.¹² Another group of drugs of this type are tetra-ethyl-ammonium and its congeners which have as the basis of their hypotensive activity the ability to block impulse transmission at autonomic ganglia.¹³

Although of theoretic value in some cases of hypertension, all drugs which cause hypotension by sympathetic blockade have practical limitations. Dihydroergocornine, for example, almost always excites emetic responses in the range of therapeutic effectiveness. Also there is a tendency for man to rapidly become tolerant to its initial action on the blood pressure.¹⁴ Although Dibenzamine has been used effectively as a tool in the diagnosis and preoperative preparation of patients with pheochromocytoma,¹⁵ there is no evidence that it is a practical weapon to use for long-term treatment of essential hypertension.¹⁶ Recently new compounds with actions similar to tetra-ethyl-ammonium have been developed and used without the toxicity and difficulties of administration which attended use of tetra-ethyl-ammonium.¹⁷ Of this group, hexamethonium bromide has been shown to be capable of lowering blood pressure and reversing many of the vascular de-

fects of malignant hypertension. The follow-up period has been extremely short and more evidence of the ability of this compound to execute adrenergic blockade over a long period of time is needed. The initial reports of its use are strongly reminiscent of many previous papers extolling the hypotensive virtues of drugs which subsequently fell by the wayside.

Recent reports of the physiologic effect of the rice-fruit diet for hypertension continue to accumulate evidence that its hypotensive action is the result of its low sodium content.¹⁸ Protein restriction, as advocated by Kempner,¹⁹ apparently is not necessary for beneficial results. Nevertheless, the controversy over whether the rice-fruit diet is an adequate one as far as protein is concerned continues to rage. Several investigators have presented evidence which suggests it may be.²⁰

Since inquiries into the physiologic action of low salt diets suggest that a beneficial result of these diets is derived from the steady adaptive response to limitation of sodium, the therapeutic aim should be reduction of the sodium intake to a level which approaches, but does not fall below, the minimum required for long-term maintenance. Thus, in some persons with poor renal function, salutary results may be seen following diets containing as much as one, two, or more grams of sodium a day when the output of sodium from the kidneys (or other sites) is of comparable degree.

Following use of this diet, repeated instances of sodium depletion have been reported,²¹ usually in those with poor kidney function. In addition, fully 50 per cent of hypertensives derive no benefit from its administration and all experience difficulty in maintaining a daily dietary intake of 200 mg. of sodium. These facts keep the diet from being an excellent therapeutic weapon. I have been impressed with the effect of this treatment in the middle aged, obese hypertensive women, with labile pressure and rapid progression of disease. In several instances, I have seen all of the symptoms and the majority of signs of this variety of hypertension respond to the 200 mg. sodium diet only to recur if a general diet is resumed. Schroeder has commented on his success with a similar group with this diet.²² Besides being an extremely effective agent in some cases of benign hypertension, the low salt diet represents practically the only well tested regimen available for treatment of the malignant hypertensive with uremia.

Some of the cardiovascular responses to lumbo-dorsal sympathectomy have been reviewed by Wilkins, Culbertson and Halperin.²³ It should be noted here that Smithwick²⁴ has presented evidence which suggests that life expectancy is prolonged after this operation in a large number of group II, III, and IV hypertensives as compared to medically treated controls. He has

been unable to correlate his successful results with any of the currently popular preoperative tests. He believes that any hypertensive who does not have renal insufficiency is a fit candidate for lumbo-dorsal sympathectomy. Individual successes are extremely difficult to predict but some patients having no or an insignificant lowering of blood pressure following the procedure are said to have a slower rate of vascular degeneration. This may be due to the abolition of the hypertensive overshoots demonstrated by Wilkins, Culbertson and Smithwick.²⁵

It is currently our policy to consider and recommend sympathectomy on individuals who are young, who do poorly on currently available medical regimens or combinations of them and on early, young malignant hypertensives who have good renal function. I have only impressions and the statistics of others to prove that selection of these patients for surgery is wise.

In 1949, Page, Taylor and Corcoran reported²⁶ the use of bacterial pyrogens for the treatment of malignant hypertension. They had observed clear reversal of malignant hypertensive processes following pyrogenic renal extracts and found that the same would occur with febrile reactions following injection of killed bacteria. The therapy is completely empiric for there is no valid explanation as to the mode of action of pyrogens in producing these results. It has been suggested that the beneficial result of this treatment may depend on the fact that fever from these agents will produce a temporary increase in renal blood flow.

Since that time, Page and his associates have reported²⁷ that in about 50 per cent of patients with malignant hypertension the signs of necrotizing arteriolitis could be eradicated if the renal function was reasonably good, specifically if the maximal concentrating ability was about 1.020 or if the maximal tubular excretory power (Tm) was above 35 mg. PAH per minute. To achieve this, it was necessary to give fever by bacterial pyrogens six times a week for two to five months, depending on when the adverse signs cleared. Associated with the improvement there was a fall in both the systolic and diastolic pressures but usually not to normal levels. On long-term follow-up, an average of 44 months, it was found that the blood pressure tended to rise toward, but not to, previous levels and that uremia, which is so frequently the cause of death in malignant hypertension, occurred seldom. The patients dying in the treated group did so from strokes but the number of deaths was considerably less than one would expect from an untreated group in this time.

Dr. Lewis E. January and I have been interested in following a group of malignant hypertensives, both pyrogen-treated and untreated. This study has been in progress for the last two years and in this time we have noticed many of the

results reported by the Cleveland group. Thus we have found that if the patient is not over sixty years of age when he develops his malignant phase and if there is no uremia, there is at least a fifty-fifty chance that the progress of the disease can be stopped for at least several months by the use of fever, a result seldom seen in the untreated disease. In the treated group we have attempted to cause fever to 102-104 degrees rectally six of seven days a week. For this we have used chiefly, Pyromen, an endogenous purified component of a *Pseudomonas* species²⁸ made available by Baxter Laboratories, Inc. Over a period of four to 12 weeks, in responsive patients, the blood pressure will drop 20-50 points systolic and 20-30 diastolic, the papilledema will subside, cardiac failure may be relieved, proteinuria and hematuria will disappear and exudates and hemorrhages in the fundi will clear up. There is frequently some evidence by clearance studies that renal function improves. At the end of a course of therapy, the patient has become for all practical purposes, a person with ordinary essential hypertension without any malignant features. And in our experience, that is the way he should be treated for the majority of our treated patients have shown progression of their disease six to 12 months later, if not placed on some form of maintenance therapy. Of the treated group, for instance, two of the ten living at the end of one year had developed malignant hypertension a second time while several others in the group had hemorrhages and new exudates in the eyegrounds as evidence that the disease was not stationary.

Pyrogen treatment is an extremely vigorous and unpleasant one which should only be considered in treatment of a disease as serious as malignant hypertension. It is lengthy and patients, if not properly motivated, will complain bitterly of the discomfort and inconvenience associated with it. At times, tolerance to the bacterial pyrogen is marked and it becomes difficult to elevate temperature. This tendency can be combatted in two ways, first by short rest periods, following which the responsiveness is regained or second by splitting the dose of pyrogen and giving the second injection one and one-half hours after the first. By use of the two methods, we have been able to produce daily fever of the desired degree in practically every patient for two to four month periods. Starting with 50 gamma of Pyromen intravenously, we gradually increase the daily dose of the agent as necessary to obtain the fever. Extremely large doses of Pyromen are not needed if the dose is split and in the majority of patients we have not used over 4 milligrams of the purified product on any one day. Other than troubles with tolerance, discomfort and inconvenience, we have found few difficulties in administering the treatment. In something over 1,000 bouts of fever in these severely ill patients,

we have had one stroke compared to four we have seen in patients during the control period while awaiting therapy. Smithwick's fears²⁹ concerning this particular complication of fever therapy do not seem completely justified. It is also gratifying to see rather severe cardiac cripples respond to this measure, even though work of the heart it temporarily increased, when they have been refractory to the usual treatment for cardiac failure.

We have observed several remissions in the progress of malignant hypertensives who did not have the degree of renal function necessary to prevent uremia. Although the number of good responses is not large in uremics with this disease, we believe that it should be tried for there is little else that helps them and fever apparently does not make them worse. The results of combined therapy with pyrogens has not been thoroughly explored but seems to hold promise for some of these people in whom no one form of treatment is of benefit.

It seems to us probable that the malignant phase of hypertension may be reversed by pyrogens. They appear to have little value in earlier stages of the disease. Exact indications for their use have not been finally evolved but the chances of benefit would appear to be greater in those patients with fair renal function and in the younger age group. Their greatest value may yet be discovered to be, in patients with uremia when used in combination with other types of therapy.

In summary, I have attempted to give a brief review of the more recent developments in the therapy of hypertension. Although the etiology of this disorder is still obscure, use of special investigative methods has demonstrated that earlier fears concerning some measures which lower blood pressure were unfounded. Nevertheless, measures for complete control of essential hypertension undoubtedly will be delayed until we have a better understanding of the cause and life history of the disorder.

BIBLIOGRAPHY

1. Calkins, E.; Dana, G. W.; and Howard, J. E.: Current methods of diagnosis of pheochromocytoma. *J. A. M. A.*, **145**:880-884 (Mar. 24) 1951.
2. (a) Schroeder, H. A.: Pathogenesis of hypertension. *Am. J. Med.*, **10**:189-209 (February) 1951.
(b) Page, I. H.; and Corcoran, A. C.: Arterial Hypertension. Its Diagnosis and Treatment. Second Edition, Chicago, Ill., The Year Book Publishers, Inc., 1949.
3. (a) Wilkins, R. W.; Culbertson, J. W.; and Halperin, M. H.: Hemodynamic effects of sympathectomy in essential hypertension. *Ann. Int. Med.*, **30**:291-306 (February) 1949.
(b) Freis, E. D.; Stanton, J. R.; Culbertson, J. W.; Litter, J.; Halperin, M. H.; Burnett, C. H.; and Wilkins, R. W.: Hemodynamic effects of hypotensive drugs in man. *I. Veratrum Viride*. *J. Clin. Invest.*, **28**:353-368 (March) 1949.
(c) Wilkins, R. W.: Hemodynamic Effects of Various Types of Therapy in Hypertensive Patients. Hypertension, A Symposium. Minneapolis, Minn., University of Minnesota Press, E. T. Bell, Editor, 1951.
4. (a) Freis, E. D.: Recent advances in medical treatment of essential hypertension with particular reference to drugs. *M. Clin. North America*, **32**:1247-1258 (September) 1948.
(b) Kraye, O.; and Acheson, G. H.: Pharmacology of veratrum alkaloids. *Physiol. Rev.*, **21**:383-446 (July) 1946.
(c) Wilkins, R. W.: Veratrum viride and essential

hypertension. *New England J. Med.*, **242**:535-538 (April 6) 1950.

5. (a) Stutzman, J. W.; Maison, G. L.; and Kusserow, G. W.: Veraloid, a new hypotensive extract of *Veratrum viride*. *Proc. Soc. Exper. Biol. & Med.*, **7**:725-727 (August) 1949.

(b) Wilkins, R. W.: Recent Experiences with Pharmacologic Treatment of Hypertension. Hypertension, A Symposium. Minneapolis, Minn., University of Minnesota Press, E. T. Bell, Editor, 1951.

6. 3 (b)

7. 4 (b)

8. 5 (b)

9. (a) 4 (c)

(b) Freis, E. D.: *Veratrum viride* and hypertension (letter). *J. A. M. A.*, **144**:1023 (Nov. 18) 1950.

10. (a) Grimson, K. S.: Surgical Treatment of Hypertension. *Adv. Int. Med.*, **2**:173. New York, Interscience Publishers, Inc., 1947.

(b) Evelyn, K. A.; Alexander, F.; and Cooper, S. R.: Effect of sympathectomy in hypertension. *J. A. M. A.*, **140**:592-601 (June 18) 1949.

(c) Evans, J. A.; and Bartels, C. C.: Results of high dorsolumbar sympathectomy for hypertension. *Ann. Int. Med.*, **30**:307-329 (February) 1949.

(d) Smithwick, R. H.: Effect of Sympathectomy Upon the Mortality and Survival Rates of Patients with Hypertensive Cardiovascular Disease. Hypertension, A Symposium, Minneapolis, Minn., University of Minnesota Press, E. T. Bell, Editor, 1951.

11. (a) Goetz, R. H.: Action of dihydroergocornine on the circulation with special reference to hypertension. *Lancet*, **1**:510-514 (Mar. 26) 1949.

(b) Bluntschli, H. J.; and Goetz, R. H.: Effect of ergot derivatives on circulation in man with special reference to two hydrogenated compounds (dihydroergotamine and dihydroergocornine). *Am. Heart J.*, **35**:873-894 (June) 1948.

(c) Freis, E. D.; Stanton, J. R.; Litter, J.; Culbertson, J. W.; Halperin, M. H.; Moister, F. C.; and Wilkins, R. W.: Hemodynamic effects of hypertensive drugs in man. II. Dihydroergocornine. *J. Clin. Invest.*, **28**:1387-1402 (November) 1949.

12. (a) Nickerson, M.; and Nomagishi, G. M.: Locus of adrenergic blocking action of dibenamine. *J. Pharmacol. & Exper. Therap.*, **93**:40-51 (May) 1948.

(b) Nickerson, M.: Sympathetic Blockade in the Therapy of Hypertension. Hypertension, A Symposium. Minneapolis, Minn., University of Minnesota Press, E. T. Bell, Editor, 1951.

13. Lyons, R. H.; Moe, G. K.; Neligh, R. B.; Hoobler, S. W.; Campbell, K. N.; Berry, R. L.; and Rennick, B. R.: Effects of blockade of autonomic ganglia in man with tetraethylammonium; preliminary observations on its clinical application. *Am. J. Med. Sc.*, **213**:315-323 (March) 1947.

14. 11 (c)

15. Spear, H. C.; and Griswold, D.: Use of dibenamine in pheochromocytoma; report of a case. *New England J. Med.*, **239**:736-739 (Nov. 11) 1948.

16. (a) Haimovici, H.; and Medinets, H. E.: Effect of dibenamine on blood pressure in normotensive and hypertensive subjects. *Proc. Soc. Exper. Biol. & Med.*, **67**:163-166 (February) 1948.

(b) Hecht, H. H.; and Anderson, R. B.: Influence of dibenamine (N,N-Dibenzyl- β -Cholorethyl-Amine) on certain functions of the sympathetic nervous system in man. *Am. J. Med.*, **3**:3-17 (July) 1947.

17. (a) Campbell, A.; and Robertson, E.: Treatment of severe hypertension with hexamethonium bromide. *Brit. Med. J.*, **2**:804-806 (Oct. 7) 1950.

(b) Turner, R.: "Medical sympathectomy" in hypertension; clinical study of methonium compounds. *Lancet*, **2**:353-358 (Sept. 2) 1950.

18. (a) Chapman, C. B.; Gibbons, T.; and Henschel, A.: Effect of the rice-fruit diet on the composition of the body. *New England J. Med.*, **243**:899-905 (Dec. 7) 1950.

(b) Dole, V. P.; Dahl, L. K.; Cotzias, G. C.; Eder, H. A.; and Drebs, M. E.: Dietary treatment of hypertension. Clinical and metabolic studies of patients on the rice-fruit diet. *J. Clin. Invest.*, **29**:1189-1206 (September) 1950.

(c) Bryant, J. M.; and Blecha, E.: Low sodium-forced fluid management of hypertensive vascular disease and hypertensive heart disease. *Proc. Soc. Exper. Biol. & Med.*, **65**:227-229 (June) 1947.

(d) Dock, W.: Use of Sodium Depletion Therapy. *Adv. Int. Med.*, Volume IV. Chicago, Ill., The Yearbook Publishers, Inc., 1950.

(e) Corcoran, A. C.; Taylor, R. D.; and Page, I. H.: Controlled observations on the effect of low sodium dietotherapy in essential hypertension. *Circulation*, **3**:1-16 (January) 1951.

19. Kempner, W.: Treatment of hypertensive vascular disease with rice diet. *Am. J. Med.*, **4**:545-577 (April) 1948.

20. (a) 18 (b)

(b) 18 (e)

21. Schroeder, H. A.: Renal failure associated with low extracellular sodium chloride; low salt syndrome. *J. A. M. A.*, **141**:117-124 (Sept. 10) 1949.

22. 2 (a)

23. 3 (a)

24. 10 (d)

25. Wilkins, R. W.; Culbertson, J. W.; and Smithwick,

R. H.: Effects of various types of sympathectomy upon vasopressor responses in hypertensive patients. *Surg. Gynec. & Obst.*, **87**:661-668 (December) 1948.

26. Page, I. H.; and Taylor, R. D.: Pyrogens in the Treatment of Malignant Hypertension. *Mod. Concept Cardiovas. Dis.*, **18**:51-52 (October) 1949.

27. Page, I. H.; Taylor, R. D.; and Corcoran, A. C.: Pyrogens in the Treatment of Malignant Hypertension. Hypertension, A Symposium. Minneapolis, Minn., University of Minnesota Press, E. T. Bell, Editor, 1951.

28. Nasset, N. M.; McLallen, J.; Anthony, P. Z.; and Ginger, L. G.: Bacterial pyrogens. I. Pyrogenic preparation from a pseudomonas species. *J. Am. Pharm. A. (Scientific Edition)*, **39**:456-459 (August) 1950.

29. Smithwick, R. H., (Discussion) Hypertension, A Symposium, University of Minnesota Press, Minneapolis 1951, E. T. Bell, editor, p. 534.

RECENT ADVANCES IN OTOLARYNGOLOGY

ROBERT R. UPDEGRAFF, M.D.

IOWA CITY

RECENT ADVANCES IN OTOLARYNGOLOGY

I HAVE BEEN asked to speak to you today on several of the recent advances in otolaryngology. In selecting subjects for discussion the following were decided upon as perhaps meriting elucidation and elaboration: (1) otosclerosis, particularly in regard to the diagnosis and selection of patients for fenestration, (2) the Endaural modified radical mastoidectomy and (3) ACTH and Cortisone.

The problem of otosclerosis is included because of the increasing surgical advances, methods of selectivity and the reliability of 12 years of experience by otologists in drawing conclusions; particularly with reference to the efficacy of the procedure. The Endaural modified radical mastoidectomy is included, not because it is especially a new operation; but to emphasize its growing importance in otology as a means of removing infectious processes with maintenance of present hearing levels or restoration of hearing toward normal thresholds. The relationship of Pituitary Adrenocorticotrophic Hormone (ACTH) and Cortisone to Otolaryngology is included to outline some of the present concepts and results that can be anticipated by the use of these remarkable and challenging hormones.

OTOSCLEROSIS

Much has been said and written about otosclerosis, and the purpose of this section is not to discuss in detail its problems, but rather to review a few facts known about clinical otosclerosis with special emphasis on the diagnosis and treatment.

Before discussing the diagnosis, treatment and prognosis of clinical otosclerosis a brief review of the whole problem will be considered.

First of all otosclerosis is a histological diagnosis. The presence of otosclerosis may be determined with certainty only when the temporal

From the Department of Otolaryngology and Oral Surgery of the College of Medicine of the State University of Iowa and the University Hospitals, Iowa City.

Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

bone is made available for microscopic study.¹ Apparently this condition occurs only in man and has never been reproduced identically in animals.²

The common site of occurrence is in the oval window, but the condition of otosclerosis may occur also in the round window, between the two windows, in the internal auditory meatus, near the apex of the cochlea, near the superior semicircular canal or in the ex-

cessive vascularization has occurred, an embolus or obliterative arteritis blocks the blood supply to the area and produces the pathological picture.³ Druss and Maybaum¹⁰ reported two cases of periarteritis nodosa of the temporal bone with otosclerosis. The diagnosis was generalized periarteritis nodosa.

From the above descriptions it is evident that otosclerosis may assume many forms and have multiple etiologic factors. Otosclerosis may occur in any case with bone or calcium dyscrasia and it may arise in almost any case in which peripheral vascular pathologic conditions exist. Vascular pathologic changes may block the normal release and resorption of calcium in an area. Peripheral vascular disease accounts for the decalcification process. Sluggish blood in excess numbers of capillary loops has been observed in the nail beds of patients with this condition. Decalcification of bone commonly occurs in the presence of stasis. (Wolff³)

Wolff,³ predicts that when a complete reconstruction of the detailed terminal blood supply of the adult petrosa is made, one will find the areas of more or less terminal capillaries with little or no chance for anastomoses to be the site of predilection for otosclerosis.

Lempert and Wolff⁵ outline their findings following their study of ossicles removed from 100 patients who had a fenestration procedure. Their findings summarize the variabilities of the problem of otosclerosis. The pathologic changes observed were found to lead in more or less logical and chronologic steps to the following: (a) changes of vascular content, (b) changes of vascular wall and (c) changes of bone.

Figure 1. A typical preoperative audiogram of a patient with clinical otosclerosis.

ternal auditory canal.³ The lesion may involve the region of the fissula ante fenestram, as discussed by Anson.⁴ Although usually circumscribed it may be diffuse. In a survey of ossicles from 215 patients with a diagnosis of clinical otosclerosis Lempert and Wolff⁵ were led to believe that the ossicles showed otosclerosis but not in the clear cut circumscribed form they had anticipated. They demonstrated microscopic evidence of ankylosis in the incudostapedial and incudomalleolar joints of these ossicles.

The pathology of otosclerosis is a variable one. The otosclerotic lesion presents a circumscribed area of spongy pathological bone clearly demarcated from normal bone. The disease is definitely seen to advance along blood channels.³ Congestion and stasis are a frequent observation, as noted by Wittmaack.⁶ The blood vessels seen under the microscope exhibit blue mantles. They were described by Manasse.⁷ There are times when the disease assumes the characteristics of a hemangioma of the bone. Keleman⁸ found an osteoma in the frontal sinus which "simulated the final stage of an otosclerotic lesion." Nager and Meyer⁹ at one time thought of otosclerosis as a localized form of osteitis deformans (Paget's disease). Osteitis fibrosa cystica is now recognized as nature's reaction to rapid decalcification of bone. When ankylosis of the stapedial footplate occurs in such cases, a diagnosis of otosclerosis will be made.³ Otosclerosis can also be shown to be a localized form of osteoporosis. Evidently after

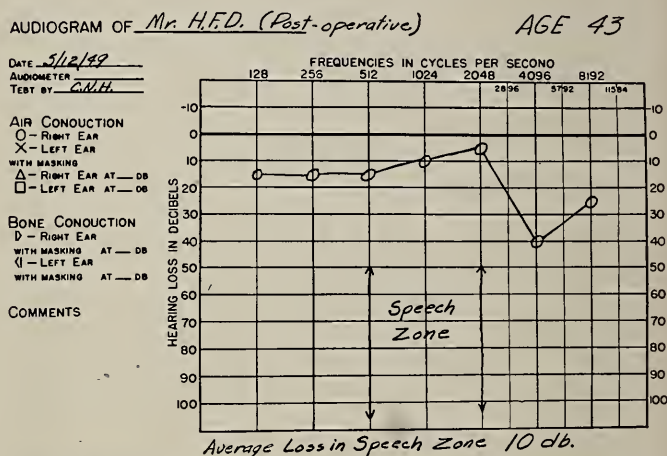
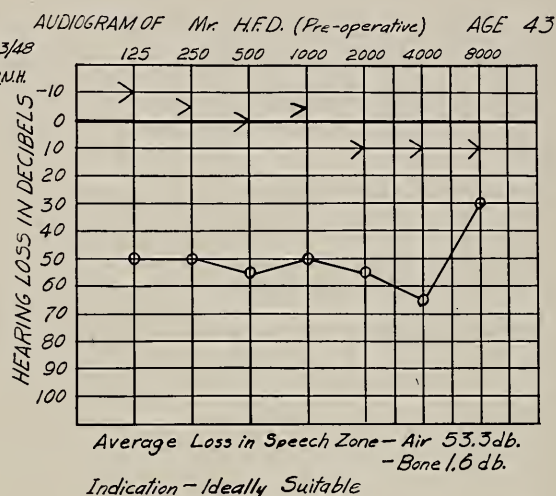


Figure 2. A representative postoperative audiogram following a fenestration.

Etiologic Factors Involved in Otosclerosis

The etiology of otosclerosis is still as unknown as when Politzer first described the condition as a disease entity.¹¹ Considerable attention has been given to possible biologic, metabolic and vascular aspects of this problem, but the true underlying cause remains a mystery.¹

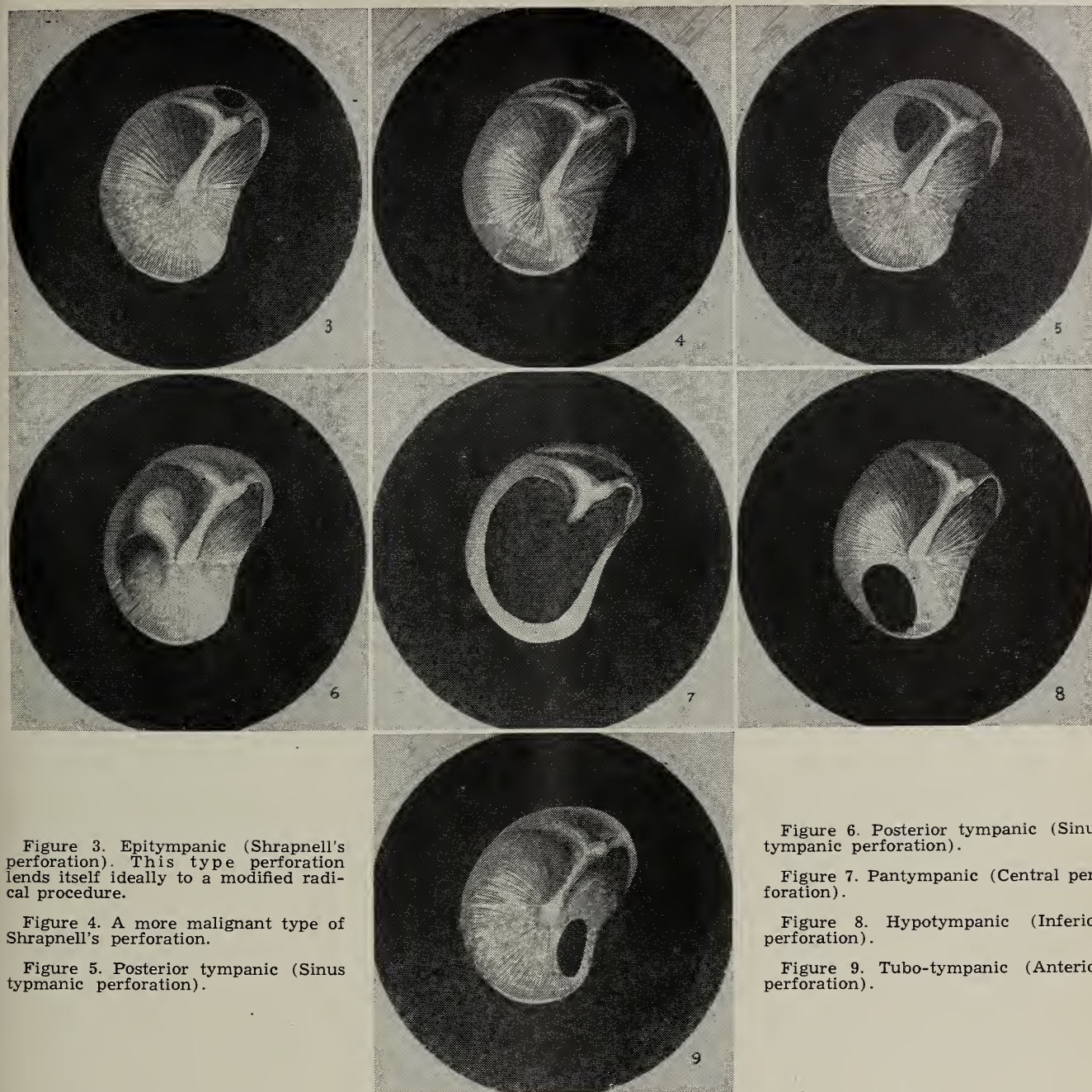


Figure 3. Epitympanic (Shrapnell's perforation). This type perforation lends itself ideally to a modified radical procedure.

Figure 4. A more malignant type of Shrapnell's perforation.

Figure 5. Posterior tympanic (Sinus tympanic perforation).

Figure 6. Posterior tympanic (Sinus tympanic perforation).

Figure 7. Pantympanic (Central perforation).

Figure 8. Hypotympanic (Inferior perforation).

Figure 9. Tubo-tympanic (Anterior perforation).

It is known that otosclerosis is more prevalent among women than men in a ratio of approximately 4:1.¹ Pregnancy may precipitate or aggravate hearing loss due to otosclerosis through the many bio-physical changes which occur during such a period. However, it must be remembered that clinical otosclerosis usually makes its appearance during the child bearing span of life and that the association of hearing loss and pregnancy may simply be a coincidence (Kos and Reger).¹ It is this frequently observed phenomena which has caused so much effort to associate otosclerosis with the processes of metabolism and endocrine activities. Also, the age of onset of deafness due to otosclerosis often coincides with that period of development occurring with or following pubescence.

The hereditary factor of otosclerosis is extremely

variable due to inadequate familial histories, difficulties in obtaining an accurate history and also because otosclerosis apparently may exist in the line of descendency for generations before becoming manifest.¹ The presence of hereditary predisposition to otosclerosis has been demonstrated in as high as 50 per cent of some large series of clinical cases.¹²

The vascular phenomena is receiving the most attention at present, but the cause for such vascular alterations is still to be determined. Lempert and Wolff⁵ report in a study of a large collection of ossicles removed by Dr. Lempert that otosclerosis probably has no specific cause but that it is a result of damage to the periferal blood supply. They believe this damage might be chemical, vasomotor, allergic or even trauma from vibratory phenomena. What trend the ulti-

mate course of the disease will take seems to depend on the constitution of the individual patient. "In some patients there may be a hemangioma; in others, fibrosis will occur, and in still others osteoporosis may develop."

Diagnosis of Clinical Otosclerosis and Selection of Cases for the Fenestration Procedure

Kos,¹ outlines the following clinical features which act as a guide for selection of cases of otosclerosis. The problem of selection is relatively

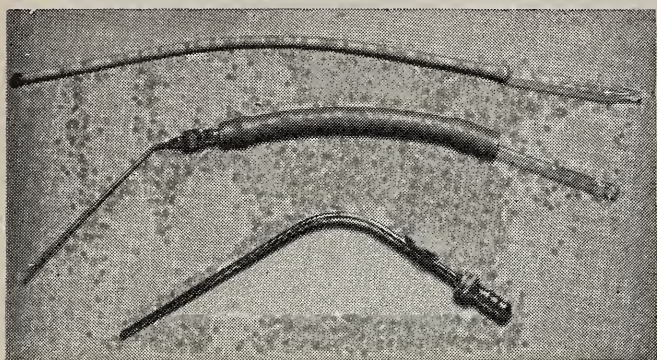


Figure 10. Instruments for aspiration procedures: TOP: For Haskin's suction. MIDDLE: Tympano-meatal aspirating tip. BOTTOM: Larger suction tip for thicker materials.

simple when the patient under consideration demonstrates the following clinical features:

1. Bilateral hearing loss in which air conduction thresholds exceed approximately normal bone conduction thresholds by 30 decibels or more.

2. Tympanic membranes are normal in appearance. However it must be remembered that otosclerosis can also coexist with an associated middle ear infection or history of physical findings suggestive of past infections.

3. Roentgenograms of the temporal bones show no evidence of residual infection.

4. Hearing is good with use of the telephone or a hearing aid and seems to be better in a noisy environment.

5. Onset of loss of hearing occurs after pubescence and is not related to systemic or local infection.

6. The hearing loss is alleged to have progressed and then to have remained stationary or to have continued to progress slowly.

7. Blood relatives of the same or antecedent generations have or have had a similar hearing loss.

8. Tinnitus and/or vertigo expressed as current or past complaint. "Tinnitus is one of the disagreeable symptoms usually associated with clinical otosclerosis. During the progressive phases of the hearing depreciation particularly it is usually described as of low-pitched, roaring or pulsating quality. It may be inferred according to the audiometric results that complete stapedial fixation has not yet occurred. Many patients who declare their hearing loss to have been stationary for years seldom complain of tinnitus. Those who

do usually describe the tinnitus as high-pitched ringing or whistling sounds. Audiometric evidence of neural degeneration may frequently be the accompanying clinical feature of this complaint. Vertigo is rarely a complaint among young patients, but it is not infrequent among elderly persons with clinical otosclerosis. It is rarely incapacitating, but at the same time it is seldom completely relieved and is occasionally exaggerated after the fenestration operation. One should be cautious in leading the patient to believe that such a symptom will diminish or disappear as the result of the operation."¹

"Except for the characteristic pattern of hearing loss as determined by bone and air conduction thresholds, the omission or variation of one or more of the criteria listed here need not constitute cause for rejection."¹

In selecting the ideal case for a fenestration, all other factors being considered, Kos and Reger¹ believe the bone conduction level at 2048 cycles is the important criteria. If the bone conduction at 2048 cycles is 15 decibels or less, the bone conduction at 512 and 1024 will usually be normal or near normal. Thus Kos expresses the thought that the pre-operative bone conduction threshold of 15 decibels to be that critical point from which deviation is likely to culminate in disappointment for both surgeon and patient. There is the individual selected case with a bone conduction of 20 decibels at 2048 cycles that might derive sufficient increase in their air conduction hearing to merit the fenestration, but these should be most

AUDIOGRAM OF J.C. 47-2311 Pre-operative AGE 23

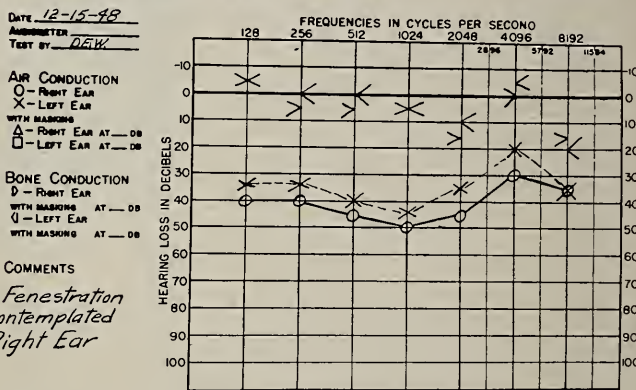


Figure 11. Preoperative diagnosis commensurate with a diagnosis of clinical otosclerosis. (Reprinted by permission of the authors and editor, from the article: Selection of Patients for Fenestration Surgery by C. M. Kos, M.D. and S. N. Reger, Ph.D., Iowa City; published in the May 1950 issue of the Archives of Otolaryngology)

carefully reviewed and only limited hearing improvement expected.

Results of the Fenestration Procedure

In the past 12 years anywhere from 20,000 to 25,000 fenestration operations have been performed. Permanently open labyrinthine fenestras are now obtainable in about 75 per cent of all patients operated upon.¹³

Dr. Lempert¹⁴ estimates that unaided hearing can be restored by operation in approximately 80 of 100 patients considered most suitable for operation and that at the end of two years hearing regression will have occurred in 20 of this group of 80, thereby netting a 60 per cent successful two years result. Results at the end of two years are considered essentially permanent. With the latest surgical advances better results are expected.¹³ Other authors report a much higher percentage of successful operative results. Shambaugh and Juers¹⁵ in recent studies using a modified technic in a group of patients designated as class A (ideal), a group which may be said to correspond to Dr. Lempert's (100 most suitable for operations), stated that successful two year results are possible in 80 per cent of the cases. Some authorities suggest that the 20 per cent difference in the estimate of good prognosis (60 per cent by Lempert and 80 per cent by Shambaugh) probably does not relate to real difference in operative results obtained or technics employed but is a factor of difference in standards of patient selection and differences in concept of what may be considered a successful result.¹⁴

Kos and Reger¹ in reporting on results in their class I (ideal) candidates for classification write: "Class I. Bone conduction acuity does not exceed an average loss of 15 decibels at 512, 1024 and 2048 cycles, and the intensity differential described as the difference between air conduction and bone conduction thresholds is at least 30 decibels—preferably more. If the bone conduction threshold remains within normal limits, the intensity differential rarely exceeds 60 decibels in carefully

have found those who did not meet the minimum requirement failed to fulfill the expectation of reaching an improved hearing level of 30 decibels for the conversational frequencies." (Figures 1 and 2)

Figure 1. A typical pre-operative audiogram of a patient with otosclerosis is presented. (Ideal candidate)

Figure 2. The following postoperative audiogram is representative of results one might ex-

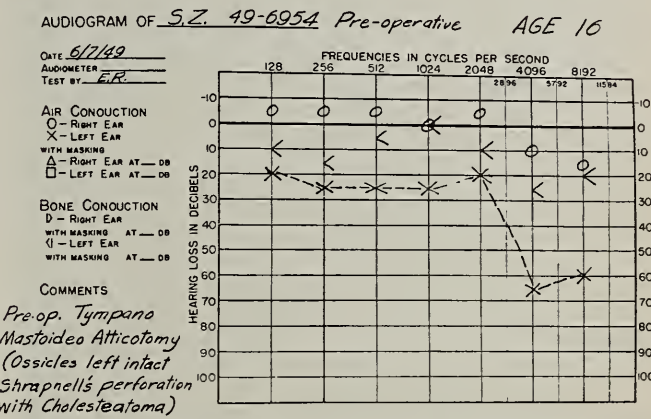


Figure 13. Audiogram of a preoperative tympano mastoidectomy.

pect following a fenestration. (Operated by Dr. Kos, Assoc. Prof. Otolaryngology, S.U.I. Hospitals, Iowa City, Iowa.)

The causes of postoperative fenestration failures are:

(a) Osteogenesis at the operative site. Lempert's¹³ development of the Bone-Dust-Free Lempert Fenestra NOV-Ovalis cupola technic, and his recent emphasis on invagination of the tympanomeatal flap into the fenestra gap¹³ can prevent osteogenic closure of a newly created fenestra. In respect to osteogenesis the following should be noted: "Whereas, clinical evidence of osteogenesis taking place in the newly created window is no longer apparent four, six or ten weeks later as Sourdille¹⁶ reported in 1937." "Instead, evidence of impending bony closure of the fenestra very rarely manifests itself before six months postoperatively. The hearing, in those cases wherein osteogenesis does take place, as a rule does not begin to show signs of recession before twelve months postoperatively and sometimes not before eighteen months of good hearing has been enjoyed by the patient (Lempert)."¹³

(b) Fibrosis: Fibrosis is incited by inflammation or organization following bleeding or oozing into the fenestra opening and perilymphatic spaces.¹

(c) Inflammation: Inflammation of the tympanomeatal flap and postoperative labyrinthitis have been almost completely controlled by improvements in operative technic and the use of chemotherapy and antibiotics. The problem of labyrinthitis is much more frequent in revision fenestrations. Kos¹ emphasized the hazards of a

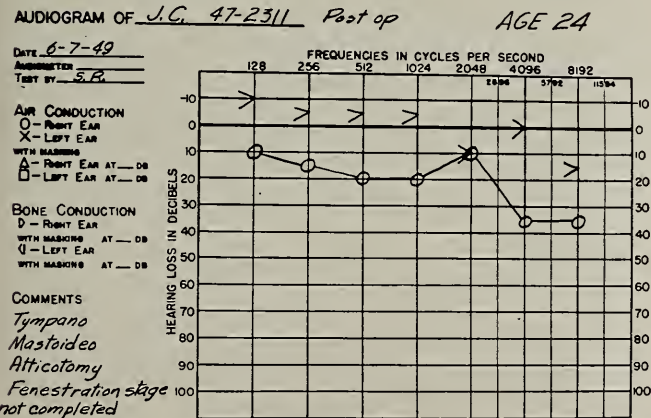


Figure 12. The fenestration stage was omitted and a tympano mastoidectomy (endaural modified radical mastoidectomy) was performed. (Reprinted by permission of the authors and editor, from the article: Selection of Patients for Fenestration Surgery by C. M. Kos, M.D. and S. N. Reger, Ph.D., Iowa City; published in the May, 1950 issue of the Archives of Otolaryngology)

tested ears." "In accordance with the standards set forth for class I, it is noted that any extension of the limitations prescribed might very seriously compromise a successful initial postoperative hearing improvement in as many as 97 per cent of patients. With few exceptions Kos and Reger

quiescent external otitis to the successful outcome of the fenestration operation.

THE MODIFIED RADICAL MASTOIDECTOMY ENDAURAL APPROACH

(Tympano Mastoideo Atticotomy)

One of the most significant advances in otolaryngology within recent years is that of the Endaural modified radical mastoidectomy. The

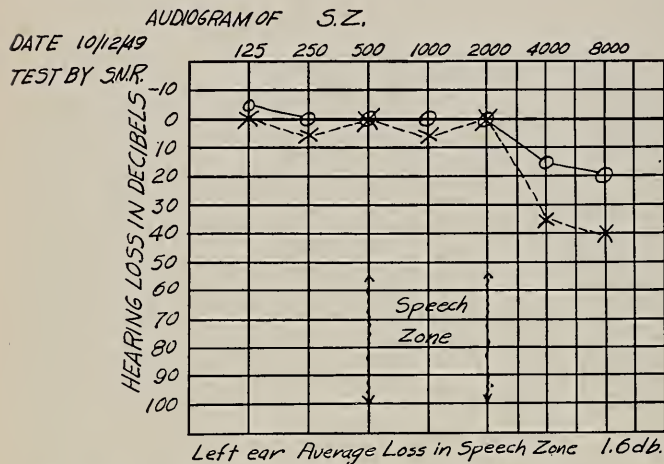


Figure 14. Audiogram of a postoperative endaural modified radical mastoidectomy.

operation is a modification of the Bondy mastoidectomy and has been popularized and perfected since the introduction of the endaural surgical techniques of Lempert.

The operation is designed to preserve all tissue possible, to preserve the tympanic membrane and all parts of the middle ear that are not involved with infectious processes. Usually it is necessary to remove the head of the malleus and the incus, but this causes only approximately a 20 decibel loss of hearing in contrast to the 40 to 50 decibel loss of hearing incurred when a radical mastoidectomy is necessary. In certain instances adhesions about the ossicular articulations can be successfully removed without disturbing the continuity of the ossicular chain with restoration of almost normal hearing.

By preserving the tympanic membrane a shield for the middle ear is obtained allowing mucosa to regenerate, if removed at the operation, rather than to have the middle ear fill in with fibrous tissue which dampens transmission of sound and which also causes fixation of the footplate of the stapes.

Definition

An endaural approach with preservation of the tympanic membrane, fashioning of a tympanomeatal flap from the posterior canal wall, and removal of only the involved portions of the middle ear and mastoid.

Necessary Requisite

Sufficient tympanic membrane (2/3 to 4/5) with

which to afford adequate blood supply to the tympanomeatal flap, and preservation of the middle ear space.

Advantages

(a) Direct anatomical approach for adequate visualization and exploration of the middle ear, antrum, mastoid and petrous tip.

(b) Mobilization of the auricle.

The following discussion pertaining to types of perforations has been extracted from unpublished data furnished by Dr. C. M. Kos, Assoc. Prof. Otolaryngology, S.U.I. Hospitals, Iowa City, Iowa.

Types of Perforations, Their Characteristics, and Their Relation to the Modified Radical Mastoidectomy:

Epitympanic (Shrapnell's perforation) (Figure 3.)

(a) The discharge is usually intermittent, somewhat scanty in amount, and not particularly purulent.

(b) The hearing may be quite good to almost normal, however:

(c) An irregular type of Shrapnell's perforation may mean ossicular destruction, hearing loss and cholesteatomatous formation. (Figure 4.)

(d) A Shrapnell's type perforation lends itself ideally to a modified radical procedure.

Posterior Tympanic (Sinus tympanic perforation) (Figures 5 and 6.)

(a) The discharge is usually constant, moderate in amount and purulent.

(b) The hearing may be fairly good, but usually will show a 20 to 40 decibel loss for air conduction.

(c) The ossicular chain is often damaged.

(d) The retrofacial area is involved.

(e) This type perforation lends itself only fairly well to the modified radical procedure. If the perforation is large the likelihood of a successful result is considerably lessened.

(f) In occasional suitable cases the sinus tympanic area can be cleaned and the ossicular chain, if not involved, can be left intact; thus affording a "dry ear" and a substantial improvement in the hearing.

Pantympanic (Central perforation) and Hypotympanic (Inferior perforation) (Figures 7 and 8.)

(a) The discharge is usually constant, often profuse and purulent.

(b) The hearing usually will show a 30 to 50 decibel loss for air conduction.

(c) The ossicular chain is almost always involved.

(d) These types of perforations are frequently associated with tubular involvement.

(e) This group much less frequently seen since the control of the exanthematous diseases, e.g., scarlet fever; whereas the epitympanic and sinus tympanic perforations are increasingly common. This is partially due to antibiotic therapy and chemotherapy with resultant control of the acute processes but with residual epitympanic and retrofacial areas of infection.

(f) This group does not lend itself to a modified radical procedure except in selective hypotympanic cases.

Tubo-Tympanic (Anterior perforation) (Figure 9.)

(a) The discharge is somewhat intermittent, often purulent and the discharge varying in amounts e.g. increasing with an episode of nasopharyngitis.

(b) The hearing is variable depending upon the activity of the infection.

(c) The ossicular chain may or may not be involved.

(d) There is an eustachian salpingitis associated with such as hypertrophied adenoid tissue, sinusitis, allergy, metabolic disturbances, and, or, recurrent nasopharyngitis.

(e) This type of perforation per se is uncommon today. Usually there is a pantympanic or hypotympanic perforation with tubal involvement.

(f) This type perforation does not usually respond to a modified radical or even to a radical procedure. The peri-tubular cells are difficult to impossible to completely exenterate.

(g) The treatment consists principally in the management of such conditions as listed under (d), and in adequate local cleansing procedures. Occasionally irradiation therapy will be of value. For adequate cleansing of the external auditory canal and the middle ear the tympanomeatal aspirator is of considerable value.

(Figure 10, center)

Case Reports

Two representative case reports with accompanying audiograms are presented.

These cases were operated by Dr. Kos, Associate Professor of Otolaryngology, State University of Iowa Hospitals, Iowa City, Iowa.

(a) The first case illustrates two factors: (1) The value of the endaural approach. (2) The fact that a patient with a preoperative picture of clinical otosclerosis might have other middle ear changes to which the endaural approach lends itself well toward restoration of serviceable hearing in either circumstance.

"J. C., a white male student at the university, was unaware of any impairment of hearing until June 1946, at which time he noted that it was necessary for him to ask that words and sentences directed to him be repeated. However, he ignored the possible implications such experiences indicated to him until he was examined for acceptance into a course for communication skills. He denied any history of aural infection or otalgia, and there was no information given suggesting a family history of deafness. His nose, nasopharynx, pharynx and larynx were normal. The paranasal sinuses were perfectly clear on roentgenographic examination. The periauricular tissues appeared normal, as did the external auditory canals. The

drum membranes were translucent and revealed no evidence of past inflammatory involvement."

"The roentgenograms of the mastoid processes were read as showing 'densely sclerotic bone with underdevelopment of the cells. The mastoid tips are both diploic in nature.' Vestibular function was normal according to caloric and rotational

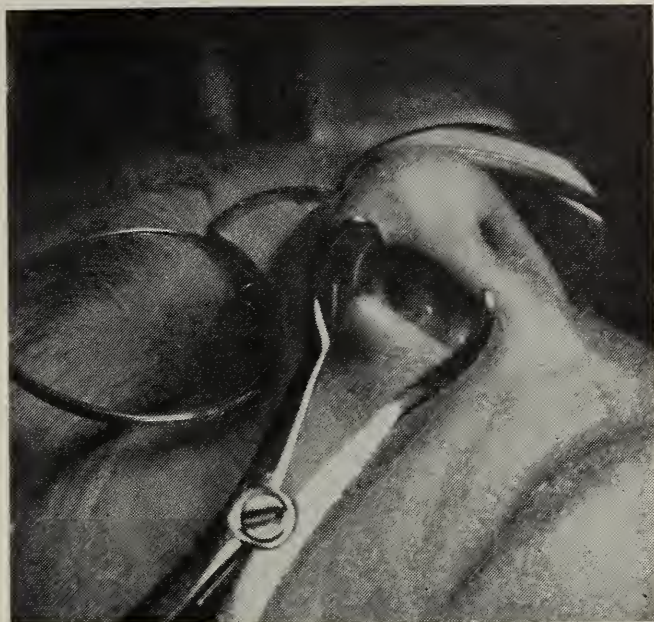


Figure 15. Showing nasal polyps before ACTH therapy.

tests. Audiograms and results with tuning fork tests were commensurate with the diagnosis of clinical otosclerosis excellently disposed for fenestration surgery." (Figure 11.)

"The fact that the mastoid processes were not clearly pneumatic in appearance roentgenographically did not obviate the clinical diagnosis, inasmuch as this laboratory finding is occasionally observed in otosclerotic patients who are acceptable for fenestration surgery. After study and review of the clinical features presented on frequent occasions over a period of more than a year, an operation was performed with the intention of proceeding with the creation of a fenestra nov-ovalis." With reference to the operative record, the following notations were made:

"It was noted that the mastoid process was semisclerotic and that the sinodural cells were filled with a noninflammatory material of lipid character, as was the retrofacial tract cells. A rather dense membrane approximately 0.5 mm. in thickness partitioned off the aditus and attic of the middle ear from the antrum and mastoid cells. There was no evidence of active inflammation. (The pathologic report later read: 'chronic inflammatory tissue.') A curtain of membrane, almost transparent, surrounded the attic projections of the ossicular chain. The incus was rather firmly attached to the head of the malleus. The incudostapedial joint was exposed and the stapes tested for mobility. It appeared to become mobile when tested with the paracentesis knife. The re-

mainder of the middle ear cavity was normal in every respect."

As the result of these observations the fenestration stage of the operation was omitted. The tympanomeatal membrane, having been fashioned, was fitted into position covering the semicircular canals, and the operation terminated with the placement of the dressings. The last audiogram,

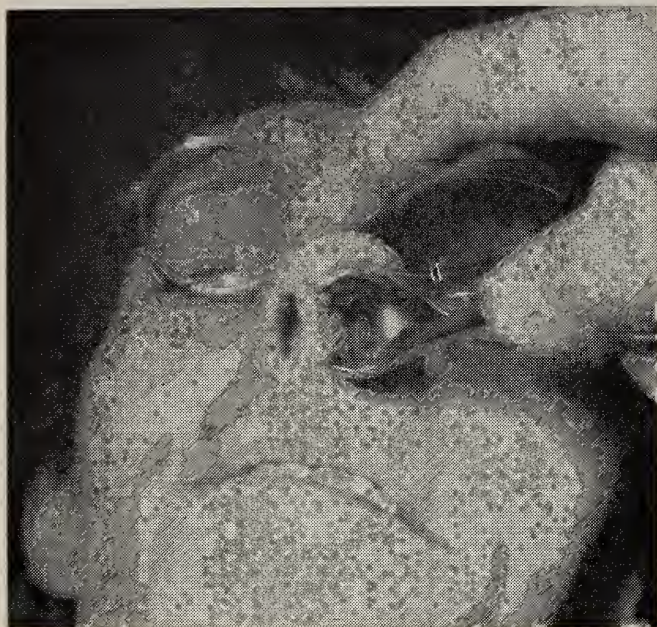


Figure 16. After sixteen days of ACTH therapy.

taken on June 7, revealed a remarkable improvement in hearing. (Figure 12.)

(b) The second case illustrates the possibilities of removal of infectious processes from the middle ear, obtaining a 'dry ear' for the patient and the restoration of normal hearing.

S. Z., age 16, was seen in the Otolaryngology department at the University of Iowa with a history of a bloody watery to a mucopurulent discharge from the left ear of eleven years duration. A tumor (presumably a polyp) was removed from the left ear canal four years previously; following which the ear was dry for one year. The patient suffered from intermittent vertigo accompanied by nausea and vomiting for the past five years. He had noticed diminished hearing in the left ear and a pulsatile type of tinnitus. The examination revealed a slight amount of mucopurulent discharge in the left ear canal. The left tympanic membrane was reddened, thickened with a loss of its light reflex, and there was a small perforation in Shrapnell's membrane anteriorly about two mm. in diameter from which a small amount of 'debris' was aspirated.

The roentgenograms of the mastoids were read as follows: "The right mastoid was normal; the left showed evidence of chronic recurrent otitis media with a poorly developed mastoid."

A culture taken of the discharge from the left external ear canal was reported as *proteus vulgaris*.

On June 9, 1949, a Endaural modified radical mastoidectomy, left, was performed. Granulation tissue was found to be surrounding the ossicular chain and these were meticulously removed, along with a small cholesteatoma in the region of the epitympanum. The ossicles were not removed. A tympanomeatal flap was fashioned and reflected into position over the solid angle of the mastoid.

The patient had an uneventful postoperative course and on October 12, 1949 the cavity was completely healed and epitheliated, and the hearing was essentially normal for the speech range. (Figures 13 and 14.)

ACTH AND CORTISONE

The physiology and varied uses of the Adrenocorticotrophic Hormone and Cortisone have been widely published and so it is not the purpose of this section of the paper to review the literature on these phases, but to point out some of the philosophies involved in their usage.

In so far as the field of Otolaryngology is concerned the following allergic disorders have shown a beneficial effect, often dramatic, to ACTH or Cortisone:

- (a) Allergic vasomotor rhinitis, with nasal polyps.
- (b) Hay fever.
- (c) Bronchial Asthma (Intrinsic type.)
- (d) Angioneurotic edema.
- (e) Drug sensitization.
- (f) Serum sickness.

Regarding the problem of allergic vasomotor rhinitis with nasal polyps, Bordley¹⁷ reports on 21 cases of allergy of the respiratory tract. He found that within twelve to seventy-two hours of the institution of adequate doses of ACTH, changes in the nasal mucous membranes began to occur. Crusting, cloudy or purulent discharges around the turbinates, and ulcerations around the mucous membranes of the anterior nares, rapidly disappeared. Those individuals suffering from nasal obstruction due to swollen, redundant mucous membranes and excessive thick mucoid discharge, experienced an improvement in breathing space within four to forty-eight hours after adequate ACTH therapy. The results with Cortisone were quite similar with the exception that the color change in the mucous membranes was much less marked; in general, it was manifest by a more healthy looking pink color, rather than the bluish color observed with ACTH therapy. In Bordley's series of cases under treatment with ACTH or Cortisone there was uniformly a reduction in size or complete disappearance of nasal polyps. In most of the individuals, the polyps had just about completely disappeared after two weeks of therapy with ACTH or Cortisone. In general the polyps reappeared within two weeks to two months after either ACTH or Cortisone therapy was stopped. The same findings were similarly found regarding the mucous membranes of the accessory nasal

sinuses, although Bordley reports that after cessation of treatment the mucous membranes did not revert to their pretreatment appearance. It has been alledged that ACTH depresses lymphoid activity and it is of interest in the above series to note that significant therapeutic changes of the growth of nasopharyngeal lymphoid tissue did not take place clinically or microscopically.

The following photographs (Figures 15, 16, and 17) are illustrative: E. B., recently entered the clinic at the State University of Iowa with a diagnosis of intrinsic asthma, moderate to severe and vasomotor allergic rhinitis with moderate to severe nasal polyps, bilaterally. She was placed on ACTH therapy consisting of 25 mgm. every six hours. This dosage was maintained for eight days and then decreased to 15 mgms. for eight days. Within a few days her nasal polyps began to subside, her nasal discharge became much less and she was able to breathe through her nose. The patient was discharged after sixteen days of therapy with the following discharge note: "the polyps, bilaterally have decreased considerably in size; the nasal obstruction is considerably relieved and there is much less nasal discharge. The patient's sense of well being is improved as is also her asthma." (Therapy was discontinued because of a rise in the patient's temperature and blood pressure.) Five weeks after discharge she returned to the Clinic for re-observation. Upon re-examination it was apparent that the polyps were recurring, the nasal discharge and nasal-obstruction were as before. Her sense of well being and the improvement in her asthma had also practically disappeared.

Thus it seems in so far as ACTH and Cortisone therapy is concerned that there is limited value to be derived from their usage in cases of nasal polyps. Bordley¹⁷ believes the use of these hormones will make it possible to do necessary sinus surgery without the complication of having the field obscured by nasal polyps.

It may be that ACTH and Cortisone may prove to be of value in careful post-operative management of nasal polyps and sinus surgery, but so far the data available is rather disappointing. The need still is quite apparent for adequate complete sinus surgery when necessary, and for careful post-operative management.

The problem of Intrinsic Asthma (i.e., bronchial asthma for which there is no apparent extrinsic cause) offers the most challenging and perplexing view regarding the use of ACTH and Cortisone. The literature is full of promising results with the use of these hormones, but also there is considerable evidence accumulating to show that the promise is a temporary one. There is no doubt, by the results to date, that ACTH and Cortisone are playing a valuable part in the therapy of Intrinsic Asthma, but the difficulty of maintenance and prevention of relapses is apparent.

We would like to urge, in view of our present

knowledge, the necessity of adequate evaluation of the paranasal sinuses. In cases for example, of chronic pansinusitis with irreversible changes, we feel it is quite necessary to remove such pathology. We still continue to see patients with severe intrinsic asthma who are relieved in varying degrees by necessary, carefully contemplated, adequate paranasal sinus surgery. Perhaps a com-

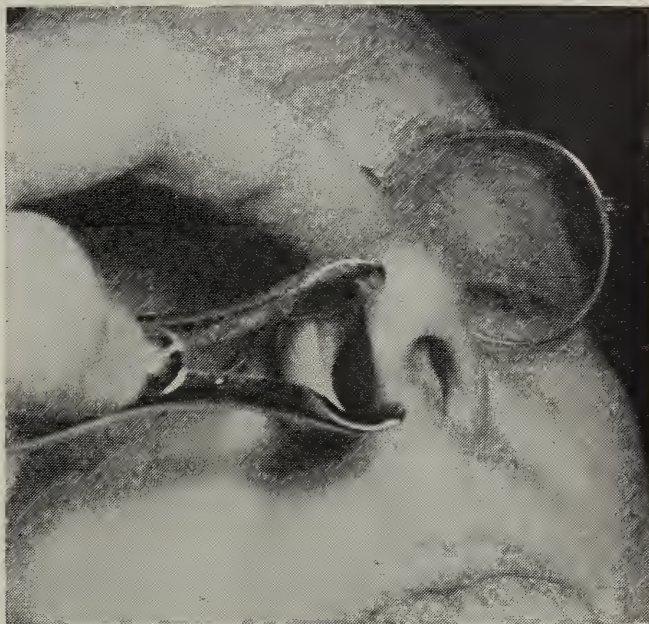


Figure 17. Five weeks after cessation of ACTH therapy.

bination of such surgical necessities and hormonal therapy will prove of even more value than either has separately. It should be remembered that if one can completely break up an attack of 'asthma,' by any means, often there is a fairly long remission.

The results in hayfever, angioneurotic edema, serum sickness and drug sensitization all are equivocal, but ones with promise. It may be with seasonal hay fever that the administration of ACTH or Cortisone, either a few days before the onset of symptoms and, or, during the season may prove of value. This approaching season will probably bring at least a partial answer to this question.¹⁸ Angioneurotic edema has such a tendency to disappear spontaneously that it is difficult to ascertain the true value of the hormones. However, in persistent cases they seem to be of considerable help. As to cases of serum sickness and drug sensitivity, ACTH and Cortisone are fairly conclusively of value.

CONCLUSION

The need for recognition of the diagnosis of clinical otosclerosis still seems apparent. Close attention to the patient's history, the physical examination and the audiogram will invariably establish the diagnosis. Particular attention is drawn to the relationship of the bone conduction to the air conduction. If the bone conduction at 2048

cycles is 15 decibels or better the patient becomes an ideal candidate for the fenestration procedure. Results that can be expected from the fenestration procedure are approximately 60 per cent to 80 per cent permanently open labyrinthine fenestras. In the ideal candidate the results might even be higher.

The development of the Endaural modified radical mastoidectomy is of considerable importance to many patients with Shrapnell's and Sinus tympanic type perforations. The Endaural modified radical mastoidectomy is designed to remove infectious processes with maintenance of present hearing levels, or restoration of hearing toward normal thresholds. The operation frequently affords a 'dry ear,' in selected cases, and may raise the hearing as much as 25 to 35 decibels. It seems appropriate to mention that more and more Shrapnell's and Sinus tympanic type perforations are being seen. This may well be due to localization of infectious processes to the attic and sinus tympanic areas by inadequate or injudicious chemotherapy or antibiotic therapy. Myringotomy or paracentesis has not been obviated by the institution of chemotherapy and antibiotic therapy. Procrastination and therapy without drainage merely leads to residual granulations and adhesive factors. A myringotomy(s) combined with the proper chemotherapeutic drug or antibiotic may forestall subsequent residual otitis media with substantial hearing impairment or prevent chronic suppurative otitis media with its known implications.

The hormones ACTH and Cortisone offer promise and at the same time disillusionment. They are of value in intrinsic asthma particularly in severe cases in aiding in bringing about remissions, but the effect does not seem to be lasting. In control of vasomotor rhinitis and paranasal sinus disease ACTH and Cortisone appear to have limited value. The need for adequate complete paranasal sinus surgery is emphasized in those patients with irreversible pathological changes. To repeat: we still continue to see patients that make dramatic recoveries of varying periods, with carefully executed sinus surgery. Perhaps ACTH and Cortisone may prove of value in maintenance of remissions following sinus surgery, and there is probably little doubt that ACTH and Cortisone will prove of certain value in tiding severe asthmatics through attacks allowing the surgeon opportunity for necessary sinus procedures.

Philosophically, within the future, it may be that ACTH and Cortisone may prove of some value as adjuncts to currently accepted treatment in helping to prevent fibroblastic activity within the middle ear following a secretory otitis media or even a suppurative otitis media.

BIBLIOGRAPHY

1. Kos, C. M. and Reger, S. N.: Selection of Patients for Fenestration, Surgery, Arch. Otolaryng. 51:707-723 (May) 1950.
2. Weber, M.: The Bone Picture of Otosclerosis and the

Theory of Its Experimental Reproduction, Tr. Am. Otol. Soc. 20:55-99, 1930.

3. Wolff, D.: Otosclerosis (Hypothesis of Its Origin and Progress), Arch. Otolaryng. 52:853-867, (Dec.) 1950.

4. Anson, B. J.: Fissular Region of the Otic Capsule in Relation to Otosclerosis, Arch. Otolaryng. 52:843-847 (Dec.) 1950.

5. Lempert, J., and Wolff, D.: Otosclerosis: Theory of Its Origin and Development, Arch. Otolaryng. 50:115-155 (Aug.) 1949.

6. Wittmaack, K.: Die Ursache der Otosklerose: Ein Vorschlag zur Ursächlichen Behandlung, Arch. f. ohren-, Nasen- u. Kehlkopfh. 129:150-173 (June 26) 1931.

7. Manasse, P.: Neue Untersuchungen zur Otosklerosenfrage, Ztschr. f. ohrenh. 82:76-96, 1922.

8. Keleman, G.: Otosclerotic Focus Outside the Inner Ear Capsule, Laryngoscope 53:528-532 (Aug.) 1943: Frontal Sinus Osteomata, Acta Oto-Laryng. 27:528-541, 1939.

9. Nager, F. R., and Meyer, M.: Die Erkrankungen des Knochensystems und ihre Erscheinungen an der Innenohrkapsel des Menschen, Berlin, S. Karger, 1932.

10. Druss, J. G., and Maybaum, J. L.: Periarthritis Nodosa of the Temporal Bone, Arch. Otolaryng. 19:502-507 (April) 1934.

11. Politzer, A.: Textbook of the Diseases of the Ear and Adjacent Organs, for Students and Practitioners, translated and edited by J. P. Cassels, Philadelphia, H. C. Lea's Son, 1883, pp. 324-353.

12. Lindsay, J. R.: Influence of Systemic and Local Factors on the Development of Otosclerosis, Arch. Otolaryng. 52:868-881 (Dec.) 1950.

13. Lempert, J.: An Analytical Survey of the Evolutionary Development of the Fenestration Operation. Ann. Otol. Rhin. and Laryng. 59:989-1019 (Dec.) 1950.

14. Editorial: Fenestration Operation for Otosclerosis, J. A. M. A. 140:682 (June 25) 1949.

15. Shambaugh and Juers (Arch. Otolaryng. 43:549-567, 1946).

16. Sourdille (Bulletin of the New York Academy of Medicine, Dec. 1937.)

17. Bordley, J. E.: Observations on Changes Taking Place in the Upper Respiratory Tract of Patients Under ACTH and Cortisone Therapy, Bull. Johns Hopkins Hosp. 87:415-424 (Nov.) 1950.

18. Leith, W. et al: The Effect of ACTH on the Immediate Skin Reaction and Passive Transfer Test in Man, Jour. Allergy. 22:99-105 (March) 1951.

A CLINICAL STUDY OF BONE LESIONS IN MALIGNANT LYMPHOMA

JAMES H. TAYLOR, M.D.

DES MOINES

THE MALIGNANT lymphomata commonly involve the skeleton producing a variety of lesions. This paper deals with the practical, clinical aspects of the problem as found in a review of the cases of malignant lymphoma seen at the State University of Iowa Hospitals during a 12 year period from 1938 to 1950.

In the present study 276 cases of malignant lymphoma were reviewed. This group comprised four classifications: Hodgkin's disease, lymphocytic (or lymphoblastic) lymphoma, giant follicular lymphoma and reticulum cell sarcoma. The diagnosis was established by biopsy of involved glands or postmortem examination in the majority of cases. Table 1 shows the number of cases of each of the four types of lymphoma and the incidence of skeletal involvement in each as were seen in the roentgenograms available. Routine skeletal surveys were not done. The case of reticulum cell sarcoma was systemic and not the so-called "reticulum cell sarcoma of bone."

Hodgkin's disease was by far the most common type of lymphoma and had the highest incidence of gross skeletal involvement, excepting the single

Formerly of the Department of Orthopedics, State University of Iowa College of Medicine, Iowa City.

case of reticulum cell sarcoma. In all, 29 cases of skeletal involvement were found out of 276 cases of malignant lymphoma, an incidence of 10.5 per cent.

Hodgkin's disease affects males almost twice as frequently as females and bone involvement probably occurs in about the same ratio. In the present series there were 21 males and eight females with bone involvement.

Malignant lymphomata are more common in young adult life. However, in this series the cases showing bone involvement ranged from 19 to 67 years of age with a mean age of 46 years. Other authors have likewise reported that skeletal lesions are more common in the older age group.

It was impossible to evaluate definitely the relationship between skeletal involvement and clinical course of the disease in the present series. Bone lesions at times produced the first symptoms and in other cases were not found until 10 years after the systemic disease was recognized. Survival after appearance of skeletal lesions ranged from a few weeks to six years. Total duration of the lymphomatous disease ranged from a few months to over 10 years. In general there appeared to be no relationship between skeletal involvement and the clinical course of the disease.

The most common symptom of bone lesions was constant, aching pain in the area involved. However, at least four of the cases in this series had no pain and it was questionable in a few others. Palpable or visible tumor was occasionally noted

TABLE 1

| TYPE | No. OF CASES | No. OF CASES SHOWING SKELETAL INVOLVEMENT INCIDENCE | |
|--------------------------------|--------------|---|-------|
| Hodgkin's disease | 200 | 23 | 11.5% |
| Lymphocytic (or lymphoblastic) | 72 | 5 | 6.9% |
| Giant follicle type | 3 | 0 | 0 |
| Reticulum cell sarcoma | 1 | 1 | 100 % |
| TOTAL | 276 | 29 | 10.5% |

if the area was near to the skin surface. Bone lesions of ribs, skull and extremities at times occurred without gross tumor formation. Pathologic fracture of the humerus occurred in one case of lymphocytic lymphoma. Fracture of ribs and partial collapse of vertebral bodies was fairly common in Hodgkin's disease. Several cases developed radicular pain and a few became paraplegic but this was usually due to tumor encroachment or

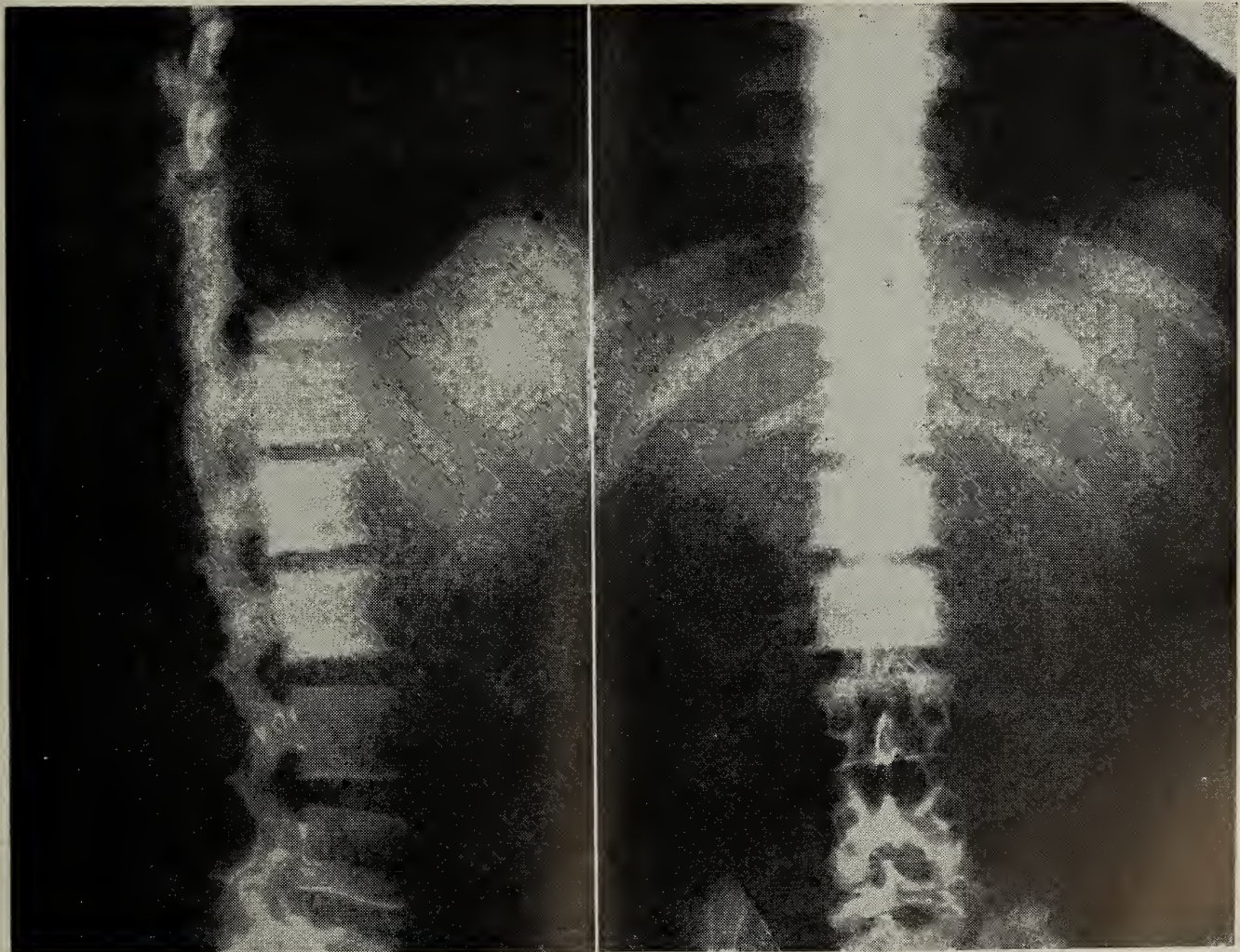


Figure 1. R. M. Hodgkin's disease involving dorso-lumbar spine showing principally sclerosis.

meningeal infiltration rather than to the vertebral collapse.

Other changes reported occurring with skeletal involvement include anemia from destruction of hematopoetic tissue and changes in the serum phosphatase level. The phosphatase tends to be

common areas affected. Other areas were very rarely involved in Hodgkin's disease.

Involvement of multiple areas in a single patient was common. In all, 58 different bones were involved in 29 patients.

The roentgenographic appearance of the lesions was extremely variable. In general the lesions were irregular with patchy areas of destruction, often with varying degrees of reactive new bone formation. Periosteal reaction or cortical expansion with central destruction was fairly common. Pathologic fractures of ribs and vertebrae with partial collapse occurred in some cases. The intervertebral discs were usually preserved. Fractures of other bones were rare. The absence of fractures of long bones in Hodgkin's disease was largely due to the low incidence of involvement of long bones other than the femur. In a few cases of Hodgkin's disease the changes appeared to consist solely of diffuse new bone formation. In others there was only a vague moth-eaten appearance. Occasionally different types of lesions were found simultaneously in the same patient.

In this series all the lesions of lymphocytic lymphoma were destructive.

The differential diagnosis of the lesions of malignant lymphoma by roentgenograms must in-

TABLE 2

| | | |
|----------------|----|-------------------------------|
| Lumbar spine | 13 | |
| Ribs | 12 | |
| Pelvis | 9 | |
| Dorsal spine | 6 | |
| Femur | 5 | |
| Humerus | 4 | (3 were lymphocytic lymphoma) |
| Sternum | 2 | |
| Cervical spine | 1 | |
| Tibia | 1 | (Lymphocytic lymphoma) |
| Fibula | 1 | (Lymphocytic lymphoma) |
| Radius | 1 | (Lymphocytic lymphoma) |
| Ulna | 1 | (Lymphocytic lymphoma) |
| Skull | 1 | (Lymphocytic lymphoma) |
| Mandible | 1 | (Lymphocytic lymphoma) |

elevated when osteoblastic lesions predominate but it may be elevated when no skeletal lesions can be found.

The sites of involvement in the present series are shown in Table 2. It is seen that the axial skeleton, ribs and femora were by far the most

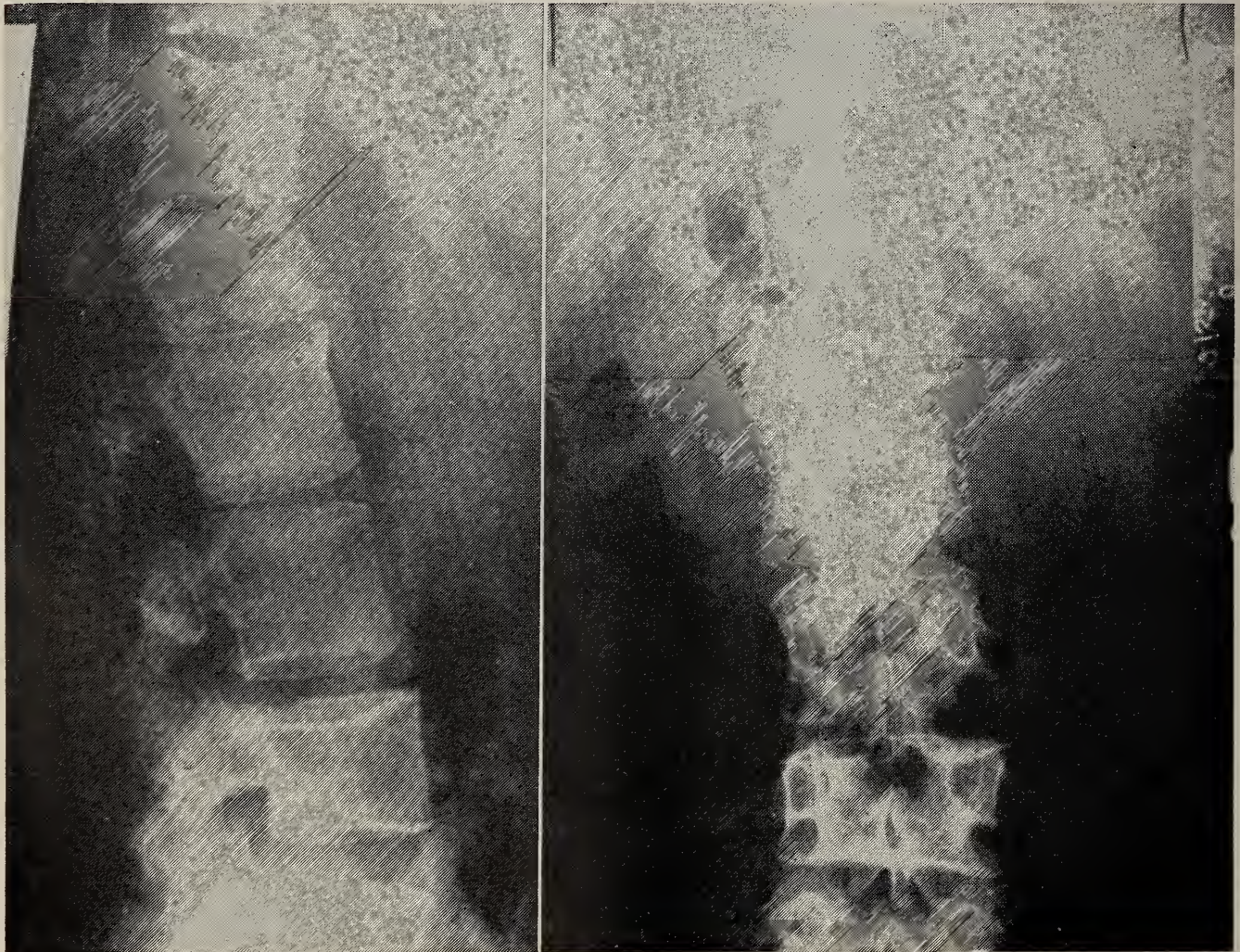


Figure 2. P. M. Hodgkin's disease of first lumbar vertebra showing destruction and collapse.

clude almost all malignant lesions of bone, both primary and metastatic, as well as many benign lesions and infections.

The bone lesions in this series were treated by roentgen irradiation or by injections of nitrogen mustards. Pain was usually relieved for a time but healing of the lesion did not occur in any case. Later in the course of the disease, the pain recurred and progression of the lesions was observed.

SUMMARY

1. Gross skeletal changes were found by roentgenograms in 29 of 276 cases of malignant lymphoma.
2. The appearance of the lesion is not diagnostic



Figure 3. J. S. Reticulum cell sarcoma involving ilium showing irregular destruction.

and may resemble almost any other type of bone lesion. Several areas of skeletal involvement were often seen in the same patient.

3. The bones involved most commonly were the axial skeleton, ribs and femora with only occasional lesions elsewhere.

4. In a few cases bone lesions preceded the systemic manifestations of the disease.

5. There appears to be no relationship between skeletal involvement and clinical course of the disease.

6. Roentgen irradiation or injections of nitrogen mustards usually relieved pain for variable periods but healing of the bone lesions did not occur.

BIBLIOGRAPHY

1. Symmers, D.: Clinical significance of the pathological



Figure 4. L. S. Hodgkin's disease involving both femora with patchy destruction.

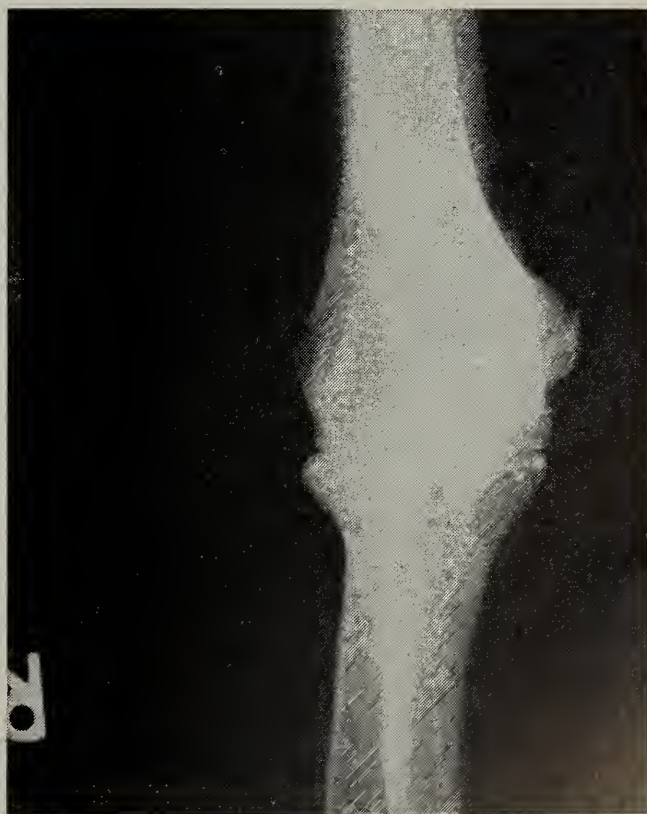


Figure 5. H. T. Lymphoblastic lymphoma involving humerus showing moth-eaten appearance.

changes in Hodgkin's disease. *Am. J. Med. Sci.*, 167:313-330 (March) 1924.

2. Vieta, J. O.; Friedell, H. L.; and Craver, L. F.: Survey of Hodgkin's disease and lymphosarcoma in bone. *Radiology*, 39:1-15 (July) 1942.

3. Coley, B. L.: Neoplasms of Bone. Paul B. Hoeber, Inc., New York, 1949, p. 397.
4. Craver, L. F.; and Copeland, M. M.: Changes in bone in Hodgkin's granuloma. Arch. Surg., 28:1062-1086 (June) 1934.
5. Dresser, R.; and Spencer, J.: Hodgkin's disease and allied conditions of the bone. Am. J. Roentgenol., 36:809-815 (December) 1936.
6. Schenck, S. G.: Hodgkin's disease with bone manifestations. New York State J. Med., 37:27-37 (Jan. 1) 1937.
7. Coles, W. C.; and Schulz, M. D.: Bone involvement in malignant lymphoma. Radiology, 50:458-462 (April) 1948.
8. Krumbhaar, E. B.: Hodgkin's disease of bone marrow and spleen without apparent involvement of lymph nodes. Am. J. Med. Sci., 182:764-769 (September) 1931.
9. Livingston, S. K.: Hodgkin's disease of the skeleton without glandular involvement. Case report proved by autopsy J. Bone & Joint Surg., 17:189-194 (January) 1935.
10. Charache, H.: Tumors in one of homologous twins. Hodgkin's disease with primary skeletal manifestations. Am. J. Roentgenol., 54:179-181 (August) 1945.

MULTIPLE MYELOMA IN GENERAL PRACTICE

LAWRENCE D. AMICK, M.D.

SAC CITY

DUE TO THE recognized difficulty of diagnosing multiple myeloma from early symptoms it might seem removed from the considerations of general practice. Paradoxically, the usual symptoms are those which the practitioner frequently encounters and for which he prescribes salicylates, anesthetic injections, diathermy and reassurance regarding arthritis. Thoma states that "Pain becomes the outstanding symptom. It is described as rheumatoid and is wandering and intermittent. Some patients have neuritic pains, and motion or pressure aggravates their condition."¹ Often weakness leads to the finding of a refractory anemia. It is seen that myeloma is a ready challenge to the practitioner if he will but exercise his index of suspicion.

It is proposed in the following discussion to present the chief diagnostic aids for confirmation of myeloma, with a useful table and a summary of treatment and to present a case recently encountered by the author in general practice.

Kahler in 1889 gave the cardinal findings of the disease as (1) bone pain, (2) pathologic fractures, (3) cachexia and (4) Bence-Jones proteinuria. To this Limarzi now adds neurologic manifestations, from cord compression by vertebral tumors and hematologic findings, including anemia, excessive rouleaux formation and atypical

plasma cells. Chronic "nephritis" is usually associated because of tubular obstruction by casts of Bence-Jones protein,^{2, 3, 4} but marked edema, retinitis and hypertension are seldom present. The victims are usually over 40 years of age.

Having a likelihood or suspicion of multiple myeloma, the practitioner will find an x-ray of the skull, long bones and pelvis and a check for Bence-Jones protein in his office to be the most useful and facile means of pin-pointing the diagnosis.

Roentgen ray studies usually reveal multiple areas of rarefaction in the flat bones. The lesions usually vary from a few millimeters to a centimeter in diameter.⁵ Limarzi describes the sharply etched, destructive lesions in otherwise normal bone as typical. The addition to this picture of osteoblastic change and larger individual lesions is taken to suggest metastatic carcinoma, and the addition of diffuse osteoporosis is taken to suggest hyperparathyroidism.^{1, 2} Even the dental practitioner may be provided with the first diagnostic opportunity as "these multiple osteolytic lesions may appear earlier in the mandible than elsewhere in the skull."²

The Bence-Jones protein test should be of the confirmatory type, i.e., the albumin should be filtered out at about boiling temperature with subsequent testing of the filtrate. The chance of having Bence-Jones protein in diseases that may simulate myeloma is indicated in Table 1.

Blood studies are an excellent means of reinforcing the diagnosis of myeloma. Hyperglobulinemia or hyperproteinemia, refractory anemia, bleeding tendency with normal platelets, myeloma and plasma cells and autohemagglutination may be present. The sedimentation rate is accelerated because of the latter.^{2, 6} Calcium, phosphorus and phosphatase levels are important in differential diagnosis. Table 1 is a ready reference to differentiate those diseases which produce demonstrable osseous lesions on x-ray which might be confused with myeloma.

The indisputable diagnosis of multiple myeloma may be obtained by sternal, or other, marrow puncture or biopsy of a lesion, the former being quite simple. The sternal puncture may fail due

TABLE 1
COMMON LABORATORY FINDINGS IN DIFFERENTIAL DIAGNOSIS OF MULTIPLE MYELOMA:

| DISEASE | BLOOD CHEMISTRY | | | | | SED RATE | BENCE-JONES PROTEIN |
|------------------------------|-----------------|--------|------------|-----------|----------------|----------|---------------------|
| | Ca | P | Alk. Phos. | A/G Ratio | Plasma Protein | | |
| Multiple Myeloma | High | Normal | Normal | Inverted | High | High | Present in 65% |
| Hyperparathyroidism | High | Low | High | — | — | — | Absent |
| Polyostotic | — | — | — | — | — | — | — |
| Fibrous Dysplasia | Normal | Normal | High | — | — | — | Absent |
| Bone Metastases | High | — | — | — | — | — | Rare |
| Paget's (Osteitis Deformans) | Normal | Normal | High | — | — | — | Absent |
| Osteomalacia | Normal | Low | High | — | — | — | Rare |
| Senile Osteoporosis | Normal | Normal | Normal | — | — | — | Absent |
| Syphilis | — | — | — | — | — | — | Absent |
| Normals | 9-11 | 2-5 | 1½-4 B.U. | 2:1 | 6-8 Gm. | 0-8 | none (Absent) |

to the scattered involvement of the marrow, and in that event Limarzi recommends repeated bone marrow aspirations of the spinous processes, iliac crest and ribs.

Therapy in this malignant disease with an average life expectancy of two to three years may be dismissed with the observation that nothing better seems to have been added to roentgen therapy for relief of bone pain and stimulation of callus formation, transfusions for anemia, orthopedic care when needed and antibiotics for secondary infection. If roentgen therapy is unavailable, urethane may be substituted in doses of 3 to 6 Gm. daily.⁷ Stilbamidine may cause severe reactions.⁸

REPORT OF A CASE OF MULTIPLE MYELOMA

A 79 year old white woman was admitted to Loring Hospital, Sac City, on July 12, 1951, due to complaints of weakness, neck pain and weight loss. Past history revealed scarlatina as a child, normal menarche, infertility during marriage and normal menstruations and menopause, with otherwise good health except for a hysterectomy for "fibroids" in 1935. The system review added nothing of significance to the present illness. There was no family history of cancer.

Present Illness: She had been in good health in recent years until October, 1950, when she de-

veloped a marked ache in the left thigh which persisted a month and then subsided without treatment. About this time she began to notice a loss in weight from 138 pounds the previous year to 120 pounds by January, 1951. She had also noticed nocturnal frequency and polyuria for several months. There was no anorexia or stool abnormality. She stated she had a medical check in the fall of 1950 and that the doctor found albumin in the urine, gave her medicine, advised her to eat less protein and dismissed her. On January 5, 1951, she developed a new ache in the right side of the neck posteriorly on turning the head sidewise. She came to our office on January 26, 1951, for this neckache and for intermittent epistaxis of three days duration. Despite the weight loss her appetite was then normal and she had no especial weakness or shortness of breath. Marked albuminuria, cardiomegaly and hypertension were found, and she was considered to have hypertrophic arthritis, chronic nephritis and hypertensive heart disease. In early March the pain spread to the left shoulder and arm. In early April she developed rhinitis, laryngitis and bronchitis with a fever of 99.2°. This responded to penicillin but a few basilar rales persisted with pulse 100. In view of the cardiomegaly, digitalization and low salt diet were undertaken for

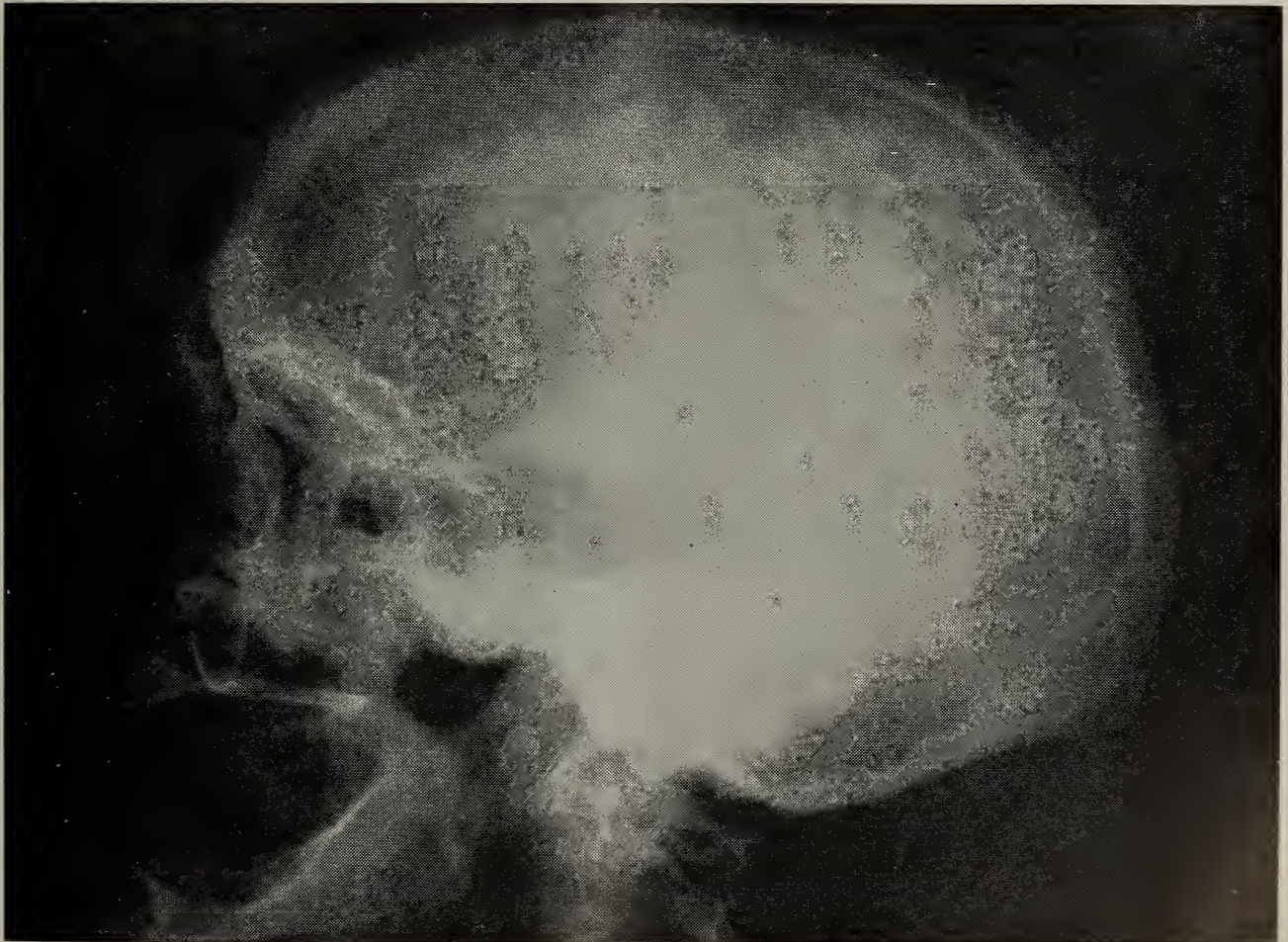


Figure 1. Skull film revealed multiple myeloma. A fine tremor caused a slight blurring which reduced slightly the sharpness of the lesions.

mild decompensation. After ten days on digitoxin the results were equivocal and digitoxin was discontinued. After this febrile illness the patient complained of weakness for the first time and the red blood count was 3.5 million with hypochromia and microcytosis on the smear. Despite iron, liver, and B₁₂ (Reticulex and Reticulogen) therapy during the month of May the anemia

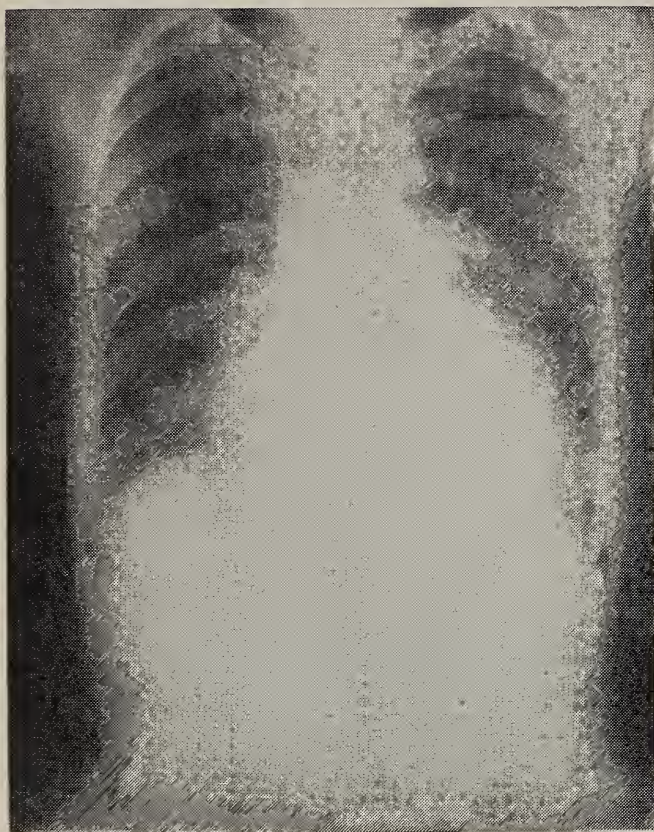


Figure 2. Myeloma is present in upper and lower ribs. The radiologist emphasized right ventricular enlargement but the systolic murmur was finally attributed to generalized cardiomegaly secondary to hypertension.

became progressively worse with the red blood count at 2.5 million and the hemoglobin 6.60 Gm. by Leitz colorimeter. The weight had dropped to 117 pounds on a high protein diet. She rejected hospitalization in June. At this point a malignancy was strongly suspected due to the refractory anemia and developing cachexia with a possibility of involvement of bone in the cervical region or of obscure visceral neoplasm.

When hospitalized on July 12, 1951, she had become very weak and anorexic, and had developed intermittent aching in both shoulders and the right anterior chest wall in addition to the neck.

Examination: This pale, elderly gray-haired white female of asthenic habitus appeared emaciated and chronically ill. Pupils, round and equal and react to light and accommodation. Normal optic discs with moderate A-V nicking in fundi. Nasopharynx revealed pale mucus membranes, full dentures. The tissue of the neck was wasted and there were no palpable nodes, abnormal masses,

or thyromegaly. Chest exam revealed atrophied breasts containing no abnormal mass. The lungs were hyperresonant and clear except for a few coarse rales in the bases. The cardiac border extended 11 cm. left of the midsternal line in the 6th intercostal space with regular rhythm, apical rate 93, a grade 3 murmur, harsh and long, following the first sound and transmitted to the aortic area and a normal second sound. Blood pressure was 165/70. The abdomen was soft, flat and emaciated. An old surgical scar extended from navel to pubis. A smooth hepatic edge, slightly tender but not nodulated, was palpable on deep inspiration just below the right costal margin. Kidneys and spleen were impalpable. No abnormal mass. Costal margin movement equal bilaterally. No costovertebral angle tenderness. Pelvic exam and rectal essentially negative, revealing an atrophied cervix uteri but no corpus or adnexae. Extremities were weak and emaciated without edema. No lymphadenopathy. Neurologic negative.

Laboratory: The white blood count was 7,600, segmented neutrophils 61 per cent and lymphocytes 39 per cent. The red blood count was 2,400,000, hemoglobin was 8 Gm. A smear was sent to a clinical pathologist who reported hypochromia and some microcytosis, thrombocytes plentiful and no significant changes in the leukocytes.

Sedimentation rate: 116 mm. in one hour (uncorrected).

Urinalysis: Albumin 3 plus, specific gravity, 1.010, reaction acid, cells few. Bence-Jones protein present in six consecutive urine specimens distributed throughout hospitalization. Mosenthal concentration-dilution test: (a) highest specific gravity, 1.010, (b) greatest difference in any two specimens-0.002 and (c) 12 hour night urine volume-3500 cc.

Blood chemistries: Non protein nitrogen 66, total protein 6.43 Gm., serum albumin 3.75 and globulin 2.68 (A/G ratio 1.4:1). Calcium 13.3 mg. per cent, phosphorus 3.40 mg. per cent and alkaline phosphatase 3.35 Bodansky units.

Wassermann: negative.

Sternal marrow biopsy negative. Terminal blood culture with penicillinase negative.

Roentgenographic Examination: 1. Cervical spine and skull: "Aside from evidence of some hypertrophic arthritis of the cervical spine this patient shows multiple osteolytic defects throughout the skull, cervical vertebrae, and upper and lower ribs which are very suggestive of myelomatosis (multiple myeloma). There is no osteoblastic change in the skull and the cranial lesions are situated in the diploic bone rather than in the inner or outer tables.

2. The long bones: "Studies of the long bones taken at Loring Hospital on July 23, 1951 revealed in the lateral portion of the distal third of the left radius two shadows of rarefaction with slightly scalloped thinning of the inner side of

the cortex adjacent to them. These are regarded as very suspicious of further sites of myelomatous implants. The remaining long bones showed no other suspicious areas and were not particularly osteoporotic.

3. Chest: "Right ventricular enlargement with a slight degree of passive venous congestion of the pulmonary vessels and accentuated prominence of the superior vena cava . . . the lung fields are clear.

4. Upper gastric intestinal tract: "Negative upper gastrointestinal tract . . . The duodenal loop was not enlarged and no masses were felt in the abdomen or tenderness elicited around the duodenum or stomach on palpation.

5. Colon: "Moderately elongated, atonic senile type of large bowel, in which there is no evidence of any intrinsic or extrinsic organic lesion . . . The cecum in particular was closely scrutinized for evidence of any abnormality in caliber or contour, or suggestion of a filling defect, but none was found and on manipulation it was found to be soft and freely movable.

6. Kidney, ureter and bladder: "These pyelograms show extremely poor renal function with impairment in ability of the kidney to concentrate the dye and an atrophy of the kidney parenchyma which is very likely due to a chronic glomerulonephritis. There is also an osteoarthritis of the left hip and malalignment of the fourth lumbar vertebra with accompanying arthritis."

Course: The patient progressed steadily downhill and died one month after admission. Blood transfusions had corrected her anemia. Following a fall against the bed she suffered simple fractures of the eighth and ninth ribs in the right anterior axillary line with considerable resultant pain, became bedridden and developed pneumonitis in the right lower lobe. Anorexia and weakness progressed and nausea and vomiting complicated the picture. Antibiotics were of no avail. Two sternal marrow punch biopsies showed no evidence of myeloma or carcinoma. Further biopsies were prohibited by the relatives and autopsy or rib necropsy was adamantly refused.

Diagnosis: In this case there are typical x-ray findings of multiple myeloma, the Bence-Jones protein is repeatedly positive, the blood chemistry is compatible with myeloma but not with hyperparathyroidism, the sedimentation rate is characteristically elevated for myeloma, there is a question of a pathologic fracture, thorough roentgenographic and clinical study failed to reveal any evidence of visceral neoplasm or malignancy of breasts or thyroid (frequent sites of origin of bone metastasis), Albright's syndrome is absent,⁹ and the clinical history is that frequently obtained in myeloma. The hypertension probably preceded the myelomatous process, judging from the marked, compensated cardiomegaly and the rarity of hypertension in myelomatous "nephritis." Very apropos is Limarzi's statement

that "in the absence of primary carcinoma or unquestionable generalized osteoporosis and clinical findings of hyperparathyroidism, all multiple, purely osteolytic, bone lesions must be considered to be multiple myeloma."²

The findings show this case to be transitional between the solitary and leukemic stages of myeloma.¹⁰ The diagnosis here is: (1) Multiple myeloma. (2) chronic myelomatous renal insufficiency, (3) hypertensive heart disease with relative mitral insufficiency, (4) generalized osteoarthritis, (5) generalized arteriosclerosis, (6) myelophthitic anemia, (7) pneumonitis, right lower lobe and (8) fractures, simple, eighth and ninth ribs, right anterior axillary line.

SUMMARY

The general practitioner is reminded and urged to look upon multiple myeloma as within his diagnostic grasp. The feasibility of his discovering and diagnosing the majority of cases that come his way is brought out by reviewing the methods at his disposal. A useful table is provided for differential diagnosis. The article is conceived in the spirit that only in our free society can the practitioner retain command and exercise competence in the more difficult phases of medicine. A case of multiple myeloma diagnosed by the author in general practice is presented.

BIBLIOGRAPHY

1. Thoma, K. H.: Oral Pathology, 2nd ed., 883-913, St. Louis, Mo., C. V. Mosby, 1944.
2. Limarzi, L. R.: Diagnostic and therapeutic aspects of multiple myeloma, *Med. Clin. N. A.*, 189-226 (January) 1951.
3. Daugherty, G. W.: Unusual forms of chronic renal disease. *Med. Clin. N. A.*, 977-985 (July) 1951.
4. Bell, E. T.: Renal Lesions associated with multiple myeloma. *Am. J. Path.*, 9:393-419 (July) 1933.
5. Sante, L. R.: Principles of Roentgenological Interpretation. Seventh edition, 162-163, Ann Arbor, Edwards Brothers, Inc., 1947.
6. Sturgis, C. C.: Uncommon Varieties of Leukemia and Allied Pathological States. Cecil's Textbook of Medicine. Sixth edition, 1006-1016, Philadelphia, W. B. Saunders, 1944.
7. Limarzi, L. R.: Treatment of blood dyscrasias. *Postgrad. Med.*, 10:51-56 (July) 1951.
8. Fowler, W. M.: Progress in the treatment of blood dyscrasias. *J. Iowa M. Soc.*, 40:51-57 (February) 1950.
9. Robinson, Marsh: Polyostotic fibrous dysplasia of bone. *J. Am. Dent. A.*, 42:47-57 (January) 1951.
10. Bickford, R. H. and Fowler, W. M.: Multiple myeloma and plasma cell leukemia. *J. Ia. State Med. Soc.*, Vol. No. 40, 527-530, November, 1950.

THE TREATMENT OF PYOGENIC SKIN INFECTIONS WITH TOPICAL NEOMYCIN

LESTER W. KIMBERLY, M.D.

DAVENPORT

This report presents significant clinical data obtained after local applications of neomycin on 45 patients with various types of pyoderma. Many additional patients were seen only once and are not included in the study.

Neomycin has a high efficiency and wide spectrum of effectiveness including both gram positive and gram negative bacteria. The unusually good response of chronic staphylococcus infections

is gratifying. *Proteus* and *pseudomonas* infections are improved rapidly while lesions infected with *monilia albicans* fail to improve.

A number of strains of *staph aureus* are being found which are becoming resistant to penicillin, aureomycin and terramycin. It appears that bacterial resistance to neomycin is slow to develop.

Its clinical value is considerably enhanced by the fact that it almost never elicited allergic reactions in the skin or other tissues. There were no signs of local primary irritation and no evidence of systemic toxicity even when repeatedly applied to large and damaged areas. Neomycin is not absorbed from the skin or gastro-intestinal tract.

Miller and co-workers¹ state that in early use penicillin sensitized six per cent of patients; sulfonamides, five per cent when applied locally. Bacitracin, aureomycin, terramycin and chloromycetin because of their low index of sensitivity and their effectiveness appear to be approaching the usefulness of neomycin.

However, the fact that they are more likely to be used systemically than is neomycin, makes neomycin the preferred antibiotic for topical use.

C. S. Livingood and co-workers² and R. L. Kile *et al.*³ report excellent results in many types of pyoderma with topical neomycin.

Neomycin was applied topically either as an ointment containing 5 mg. per Gm. of base (wool fat and white petrolatum) or as a wet dressing of a solution containing 1 mgm. per cc. Patients were instructed to apply the medication three times a day.

Although the number of patients treated is not large, the results obtained warrant a preliminary report.

The results obtained are summarized briefly in the accompanying table:

| | | IM- | |
|--|-------|-------|---------------|
| | CASES | CURED | PROVED FAILED |
| Impetigo contagiosa | 6 | 6 | |
| Chronic folliculitis of the beard .. | 6 | 5 | 1 |
| Acute folliculitis of the beard | 3 | 3 | |
| Nummular eczema | 3 | | 3 |
| Pustular bacteroid | 1 | | 1 |
| Secondarily infected eczematoid, atopic and other dermatitides .. | 17 | 7 | 7 3 |
| Stasis ulcer | 2 | 1 | 1 |
| Infected ulcerated hemangioma .. | 1 | | 1 |
| Otitis externa | 4 | 3 | 1 |
| Boils | 2 | 1 | 1 |

All of the six patients with impetigo were cured in three to six days. The chronic follicular infections of the beard had been previously treated with systemic penicillin or bacitracin ointment or quinilor ointment and some with all, with poor response. The same cases responded rapidly with neomycin and usually without recurrence. In those patients where infection per se was only partially responsible for the dermatologic condition, the secondary infection responded well. Even in the ulcers requiring prolonged treatment there was no

evidence of increased resistance to neomycin during the period of observation.

In addition, neomycin was used as the preferred dressing for all minor office electro surgery such as warts, moles, skin cancers, etc., over a period of nine months. The absence of infection and rapid healing of these lesions deserves notice.

The wide variety of infections which responded indicates the value of topical neomycin in all pyogenic skin disorders.

Clinically, neomycin is the most effective agent yet found, and because it can be used without fear of reaction, it is first choice for topical antibiotic therapy.

The neomycin was supplied by the Upjohn Company.

BIBLIOGRAPHY

1. Miller, J. L.; Slatkin, M. H.; and Johnson, B. A.: Evaluation of bacitracin in local treatment of pyogenic infections. *Arch. Dermat. & Syph.*, **60**:160-120 (July) 1949.

2. Livingood, C. S.; Nilasena, S.; King, W. C.; Stevenson, R. A.; and Mullins, J. F.: Pyogenic Infections Treated with Neomycin, *J.A.M.A.* **148**:334-339 (Feb. 2) 1952.

3. Kile, R. L.; Rockwell, E. M.; and Schwarz, Jan.: Use of Neomycin in Dermatology, *J.A.M.A.* **148**:339-343 (Feb. 2) 1952.

State University of Iowa
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

March 19, 1952

SUMMARY OF CLINICAL RECORD

THE PATIENT, a 45 year old white man, was transferred from Oakdale Sanatorium to the University Hospitals and entered the Neurology Service with the following complaints: headaches and generalized weakness for four years, blurring of vision for three years and 20 pounds weight loss over a period of six months.

The patient had two febrile illnesses in his past history which were diagnosed as "rheumatic fever" and "typhoid." However, the exact time of their occurrence could not be recalled. He had been "overheated" once while threshing grain.

Four years prior to admission to the University Hospitals, the patient began to notice trouble working because of the above-mentioned symptoms. Complaints then remained essentially unchanged until about seven months prior to entrance here, when there developed a tremor of the hands, forcing him to stop all forms of farm work. About one month later he noticed a marked cough associated with chest pain, for which he was hospitalized locally and a diagnosis of "double pneumonia" was made. It was felt by the family that the patient had been worrying unduly about his farm work.

When the patient did not respond to treatment in the local hospital he was taken to a Wisconsin clinic. A written report of their results read as follows: spinal fluid: normal dynamics, protein 240 mgm. per cent, pellicle formation on stand-

ing; x-rays: chest plate showed partially unresolved pneumonia; lymph node biopsy: chronic granulomatous process with numerous giant cells; diagnosis: (presumptive) tuberculous meningitis; treatment: streptomycin intramuscularly and two doses intrathecally; disposition: transfer to Oakdale Sanatorium.

The report of the Oakdale Sanatorium was: spinal fluid: protein values up to 335 mgm. per cent, cell counts ranging from 33 to 130 lymphocytes, consistently four plus Pandy tests, sugars 29 to 55 mgm. per cent, negative smears, cultures and guinea pig inoculations; diagnosis: chronic meningitis, type undetermined; treatment: 100 mgm. streptomycin intrathecally biweekly for four months, regular intramuscular streptomycin therapy for five months.

During his stay at Oakdale the patient became disoriented. He developed ataxia and fell, spraining his ankle shortly before transfer to the University Hospital.

Upon arrival in the University Hospital, the patient was unable to supply any reliable information about his illness. Examination revealed poor recent memory, disorientation, impaired mathematical calculation, a four plus stiff neck on antifixion, a few palpable cervical lymph nodes, a small operative scar on the right anterior neck, tremulousness of the arms, reduced alternate motion rate in the left arm and leg, normal strength throughout, Kernigs 165/165, generalized hyperreflexia and a recent sprain of the right ankle.

The heart and lungs were normal, blood pressure was 105/65 mm. of Hg. The abdominal, genital and rectal examinations were normal. X-rays of the skull, chest and hands were normal. The EEG showed focal activity in the right frontal region. An eye consultant reported normal visual fields and fundi, while an ENT consultant noted absence of caloric responses. Psychiatric and psychometric studies indicated marked evidence of organic deterioration of personality and mental ability.

Laboratory studies were as follows: urinalysis was normal; complete blood counts and differential count were normal; sedimentation rate was 6 mm. in one hour; hematocrit was 33 per cent; blood urea nitrogen was 15 mgm. per cent; creatinine was 1.0 mgm. per cent. Five spinal fluid examinations revealed: xanthochromic fluid, normal pressures, total proteins ranging from 338 to 386 mgm. per cent, sugars 31 to 51 mgm. per cent, cell counts 53 to 120 lymphocytes per cu. mm. and four plus Pandy reactions. These results were scattered such that they did not indicate any trend of remission or progression. Spinal fluid specimens sent for smear, culture, guinea pig inoculation and mycotic studies were negative.

The patient continued to show a variable amount of confusion and disorientation, until on the nineteenth hospital day he experienced his first grand mal seizure. This started on the right side

before becoming generalized. A lymph node biopsy was reported as "chronic granulomatous inflammation." On the twenty-first hospital day, intrathecal and intramuscular streptomycin therapy was instituted. He showed an equivocal response to the treatment and on the thirty-fifth hospital day a ventriculogram was performed to rule out a space-occupying lesion. Following this procedure his mental state became worse to the point of semi-coma and there developed persistent singultus, which lasted for eight days. The patient had two more grand mal seizures, the last one being preceded by a period of aphasia. Streptomycin was discontinued on the sixty-eighth hospital day, and the patient was discharged on the ninety-first hospital day on anti-convulsant medication.

The patient's clinical symptoms remained about the same until about one month later, when he suddenly became violently ill, developed projectile vomiting and died.

NECROPSY FINDINGS

The principal anatomic lesions were found in the brain, lungs, spleen and lymph nodes. The dura of the posterior fossae and of the foramen magnum revealed myriads of pebbly white nodules 1 to 3 mm. in diameter. The meninges of the spinal cord, the base of the brain and both temporal areas, as well as the ependymal lining of the entire ventricular system, were thickened and covered with a granular exudate. Scattered through this exudate were numerous nodules similar to those described above. They were particularly conspicuous along the course of the vessels. Throughout the gray and white matter, but particularly where the meninges dipped into the sulci, glistening tubercles, 1 to 2 mm. in diameter, were seen. A firm, gray, gritty lesion 1 cm. in diameter, having the appearance of a tuberculoma, was found in the inferior portion of the left internal capsule and putamen. All lobes of both lungs, the spleen and lymph nodes were riddled with gray nodules 1 to 3 mm. in diameter. There were foci of pneumonic consolidation and edema in both lungs.

All of the tubercle-like lesions described above were sharply circumscribed and were composed of large focal areas of epithelioid cells with occasional to numerous multinucleated giant cells. Lymphocytes and neutrophilic leucocytes were scarce. Caseation necrosis was absent, but in a few areas fibrinoid necrosis was observed in the center of the lesions. Multiple repeated attempts to identify tubercle bacilli failed. Evidence of healing in the form of fibrosis and hyalinization was noted in some of the lesions.

Anatomic Diagnoses: Disseminated visceral sarcoidosis of Boeck involving dura, meninges, brain, cervical cord, lungs, spleen, lymph nodes and pituitary gland.

Bronchopneumonia.

Generalized arteriosclerosis, moderate.

Old cardiac infarct, right ventricle.

CLINICAL DISCUSSION

Dr. Edward C. Clark, Neurology: Could we have the student opinion on the case?

Junior Student: All the students decided that the patient had a chronic granulomatous disease, and there were various thoughts as to which one it could possibly be. Nine voted for tuberculous meningitis, 23 for tuberculous meningitis with a tuberculoma, one for brucellosis, nine for a mycotic infection, six for brain tumor, one for Hodgkin's disease.

As for the cause of death, 13 voted for respiratory failure, 10 for a cerebral vascular accident and 13 for acute hydrocephalus.

Dr. Bruce C. Ehmke, Neurology: This patient was a 45 year old white man who was transferred to the Neurology Service from the Oakdale Sanatorium. His entrance complaints were those of headache, generalized weakness, both of which had been present for a period of four years; he had some blurring of vision for three years and had lost approximately 20 pounds in weight in a period of six months prior to admission.

The patient first began to notice difficulty four years prior to his admission to University Hospital, in that the headaches and generalized weakness were impairing his ability to carry on with his farm work. He also, about seven months prior to entering the hospital here, developed a tremor of both hands which became severe enough to force him to stop working.

He was taken to the local hospital, where treatment was initiated, and, since he did not respond to the usual measures, was taken to a clinic in Wisconsin, where chest plates showed partially unresolved pneumonia. A lymph node biopsy showed a chronic granulomatous process with numerous giant cells. The spinal fluid showed elevated protein and pellicle formation. It was decided from the biopsy that this may have been tuberculous meningitis, and the patient was transferred to the Oakdale Sanatorium.

His medication was started at the Wisconsin clinic and continued during his entire stay at the Oakdale Sanatorium. This consisted of intrathecal and systemic injections of streptomycin. The former was carried on for approximately four months, and the latter for five.

During the patient's stay at Oakdale, he became disoriented, would get out of bed, wander about at night, and finally fell, spraining his ankle. At that point the patient was transferred to the University Hospital. Upon arrival here, he was unable to give us any reliable information about his illness.

The physical findings were those of a generalized disease with palpable cervical lymph nodes. The operative scar where the lymph node biopsy had been taken, generalized tremulousness, and normal muscular strength were noted. The remainder of

the physical examination failed to show any significant findings.

Electroencephalograms showed focal activity of the right frontal region. The Eye Department reported normal visual fields and fundi; and the Ear, Nose and Throat Department reported an essentially normal examination. The patient showed, on psychometric and psychiatric evaluation, rather severe organic deterioration. Laboratory studies here confirmed those reported from the Wisconsin clinic and the Oakdale Sanatorium—that of elevated spinal fluid protein, depressed spinal fluid sugars, cell counts ranging from 53 to 120 lymphocytes. All attempts to isolate a causative organism were unsuccessful.

The patient continued to have a slowly progressive downhill course, in spite of continued intramuscular and intrathecal streptomycin therapy. He finally was discharged on the ninety-first hospital day. During his hospital stay he had developed symptomatic convulsions and required anti-convulsant medication. About one month after his discharge, the patient became very violently ill and expired within a matter of a few hours.

Dr. Clark: As this patient was seen in several different hospitals during the course of his illness, we would like to have Dr. Wise from Oakdale tell us about the patient while he was there.

Dr. Arthur C. Wise, Oakdale Sanatorium: When the patient came to us, he had been receiving streptomycin for a period of time, intramuscularly and intrathecally. However, only had two infections intrathecally. The studies done by the clinic in Wisconsin from which he had been referred were those compatible with a tuberculous meningitis, with the exception of the "clincher"—they had not found the tubercle bacillus in the spinal fluid.

We repeated the spinal fluid studies, and, once again, as far as chemistry was concerned, they were compatible with tuberculous meningitis. Several guinea pig inoculations were run on the spinal fluid and were consistently negative. The pellicles that formed were also negative for acid-fast organisms. Sputum, throughout his stay in the sanatorium, was never positive for tubercle bacilli. He had a rather odd-looking chest film. It was not particularly significant. (Figure 1) There was some increase in the markings of the hilar region and some fine striations off into the periphery. These were not particularly marked. There were some increased markings in the base, possibly compatible with bronchiectasis.

The sedimentation rate was 8 mm. in one hour by a Cutler method, and decreased to two while at Oakdale. We found no evidence of osseous or genital-urinary tuberculosis, two conditions which may accompany tuberculous meningitis, particularly in the male patient.

We do have a record that Mayos in 1945 had seen this patient. They report negative chest

findings. Urinalysis, prostatic examination, etc., at that time were negative.

We attempted to rule out an obscure cause for his symptoms. Tests for undulant fever, typhoid fever and tularemia were negative. (The patient gave a history of skinning rabbits just prior to his illness.)

A lymph node biopsy done at the referring clinic showed "fibrosing tuberculous reaction with numerous giant cells."

We felt that we had to go along with the diagnosis of tuberculous meningitis. Our feeling in the matter was this (and I still feel about the same, although I am a little apprehensive as to what the pathologist will tell us): we know that patients may have very tiny tuberculomata in the brain tissue or meninges. These may periodically discharge small numbers of tubercle bacilli into the spinal fluid. One may not always find a positive test by guinea pig or culture. These occasionally may give greater signs of irritation than one would expect. I believe there is a possibility that this man may have had some deterioration in a frontal lobe. We do find, in patients with tuberculous meningitis, that one of the predominant symptoms, particularly in the adult, is a change of disposition—the extremely irritable patient. Although this man had apparently had some odd characteristics throughout his life, the patient's family led us to believe they had noted a definite personality change in the past three to four years. The history of blurring of vision and diplopia is not unusual in tuberculous meningitis.

I am now trying to defend our diagnosis. The classical symptoms of projectile vomiting, convulsions and marked weight loss, which are seen in tuberculous meningitis in children, are not as frequently seen in the adult. Personality change, rise in temperature, nuchal rigidity and the other findings of meningeal irritation in a patient who has had evidence of tuberculosis elsewhere in the body, particularly osseous tuberculosis or genital tuberculosis, makes us suspect tuberculous meningitis. This man, I notice, did eventually die with projectile vomiting and an acute episode.

Dr. Henry E. Hamilton, Medicine: What significance is there to the pellicle formation?

Dr. Wise: Probably that alone is not particularly significant, except that the material that is injected into the guinea pig is usually taken from the pellicle, since the bacilli are usually concentrated there.

Dr. Sidney E. Ziffren, Surgery: Would the guinea pig necessarily be positive if the person had been receiving intrathecal injections?

Dr. Wise: Well, that was the question in our minds—were the small numbers of bacilli rendered avirulent by the streptomycin he had been receiving. We understand, from what we can gather in our communications with the laboratory and the doctor at the other clinic, that the spinal fluid

tests had been done there before he was given streptomycin. We did feel, however, that if he had had the streptomycin beforehand and only a small number of tubercle bacilli were being discharged, it was quite possible that we would not detect them.

Dr. Paul Seebohm, Medicine: What was this patient's temperature curve while he was in the hospital?

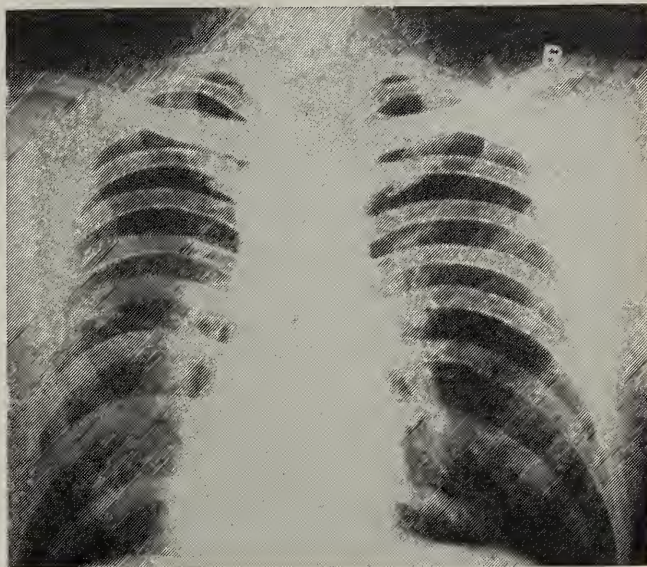


Figure 1. Chest x-ray taken at Oakdale Sanatorium showing increased hilar and basilar markings.

Dr. Wise: His temperature curve was pretty much within normal limits.

Dr. Hamilton: Were there any spinal fluid chlorides done?

Dr. Wise: Yes, spinal fluid chlorides were done. With the first specimen we sent in, we asked for too much with too little. They were repeated, however, and were 675 mg., so there was a slight decrease. The sugars were down quite a bit, as low as 29 in some instances.

Dr. Hamilton: Do you always find changes in chlorides in tuberculous meningitis?

Dr. Adolph L. Saks, Neurology: Almost always. In this case they were consistently depressed.

Student: What was the skin test?

Dr. Wise: The skin test was positive for Old Tuberculin. He had what we read as a 1 plus positive tuberculin reaction.

Dr. T. Lyle Carr, Medicine: Were there other skin tests performed?

Dr. Wise: I do not believe so; they are not recorded.

Student: Was a serology or gold curve done?

Dr. Wise: A gold curve was performed at the other clinic, and that was 0012332100. Globulins were positive and total protein at that time was 240 mg. per cent. Spinal fluid there and our tests also were negative for syphilis.

Dr. Hamilton: Was this patient treated in this hospital with streptomycin?

Dr. Wise: Yes. It is my understanding that

streptomycin was stopped for a week to ten days, and during that time there was a definite deterioration in his condition. He was put back on it again with subsequent improvement.

Dr. Clark: In line with our policy of having the people who took care of the case speak, I would like to have Dr. Sahs take up with the arrival of the patient here.

Dr. Sahs: We were faced with the same problems that Doctor Wise has mentioned. The diagnosis of tuberculous meningitis is often a difficult one to establish. Often it is necessary to proceed with therapy on the basis of a clinical impression. This is particularly true if the patient has received antibiotic treatment previously. We made the decision to continue streptomycin therapy because: (1) Of all the possibilities, tuberculosis seemed to be the most likely. There was lymphocytic pleocytosis, the spinal fluid protein value was increased and the chloride value was decreased. (2) His tuberculin test was positive. (3) He appeared to grow worse when streptomycin therapy was discontinued.

Many other possibilities were considered in the differential diagnosis of this case. A skin test was not performed for histoplasmosis. The same applies for coccidioidomycosis. A number of specimens were sent to the laboratory in an effort to demonstrate pathogenic yeast organisms, but none was found.

The patient failed gradually, in spite of supportive therapy. The ventriculograms revealed no expanding lesion. His wife finally decided to take him home, since there was little more that we could do.

Dr. Clark: Because of mental changes that occurred in this patient, we thought this was a good opportunity to invite Dr. Huston over to discuss the psychiatric aspects of organic brain disease.

Dr. Paul Huston, Psychiatry: This patient showed signs which are characteristic of organic brain disease. The positive findings were confined chiefly to the sensorium: disorientation, clouding of consciousness and memory fault. The memory disturbance was that of recent memory, as contrasted with disturbance in remote memory. There was also evidence that he had frontal lobe involvement, since he had difficulty in thinking abstractly. This sort of picture implies deterioration principally in the intellectual sphere, involving the ability to deal with concepts, to make judgments, and to solve new problems that might arise in his life. He was given a psychometric examination which revealed signs of intellectual deterioration. This, then, confirmed the clinical impression.

It was commented by Dr. Ehmke that this patient seemed to have more difficulty in the sensorium at night than in the daytime. This is also a characteristic of persons with organic brain disease.

In addition to the changes in the patient indicating deterioration, he had become irritable and

showed emotional lability, i.e., he would develop some emotional state, such as crying, on very slight provocation. This is also seen in patients with organic brain disease.

I should comment that, whenever a patient has a change in his emotional status, one has to think of all the diagnostic possibilities. Experience with paretics demonstrates this nicely. A paretic may show as the chief presenting symptom depression, or excitement, or grandiosity; but careful examination will almost always reveal the presence of deterioration and evidences of a disturbance in consciousness, disorientation, recent memory fault and defects in judgment.

The history indicating that this man had had complaints dating back at least four years, characterized by headache, weakness, blurring of vision, tremulousness, together with the changes in the sensorium and emotional status, implies an organic brain disease, generalized in character, i.e., involving the whole brain.

Dr. Stephen A. Forbes, Radiology: A film of the chest taken on the patient's admission to the hospital shows a clear right lung field. The left lung field shows a rather diffuse increase in the bronchovascular markings surrounding the left hilum and extending to the base. This could represent the residual of a pneumonitis. Nothing is seen in either hilum to suggest node enlargement.

Preliminary films of the skull show no localizing signs of tumor or disease. Ventriculograms show a moderate amount of air in the lateral ventricles. There is no abnormal dilatation or blunting. The ventricular system is not displaced. No lesion is demonstrated encroaching upon the ventricular system.

Dr. Sahs: Just for the benefit of the record, Dr. Forbes, would you show the films of the hands? They were taken for a specific purpose.

Dr. Forbes: Since Boeck's sarcoid was suspected, films of the hands were taken. They show no abnormality. In about 10 per cent of the cases of Boeck's sarcoid, there are cyst-like areas adjacent to the articular surfaces of the phalanges.

Dr. Clark: Dr. Carter, would you give the pathological report?

Dr. John Carter, Pathology: This case is being presented as one of disseminated sarcoidosis of Boeck. Before we go to the pathologic findings, and to preclude any misunderstandings that may arise, may I read a definition of sarcoidosis generally accepted: "Sarcoidosis is a generalized systemic condition characterized by tubercle-like lesions composed of epithelial cells and giant cells, but with little or no caseation necrosis, and in which there is an absence of tubercle bacilli."

The principle anatomic lesions were found in the brain, dura, meninges, ependyma, lungs, pituitary gland, spinal cord, spleen and lymph nodes. The dura of the posterior fossae was particularly involved. The lesions consisted of small, glistening white, pebbly, tubercle-like nodules which

were approximately 1 to 3 mm. in diameter. A tuberculoma-like lesion was found in the mid-cerebrum immediately inferior to the left internal capsule and putamen. This lesion was a firm, gray nodule approximately 1 cm. in diameter, but it did not extend into the ventricular system.

The histologic features of sarcoidosis are those of a chronic granulomatous reaction. Proliferation of epithelioid cells with Langhans giant cells, lack of caseation necrosis, paucity of lymphocytes or leukocytes and an absence of tubercle bacilli are the principal changes. Such was the appearance of the lesions in this case.

Whether this case is one of sarcoidosis or some aberrant form of tuberculosis is hard to say, but the histologic, clinical and gross features are consistent with disseminated sarcoidosis.

Practically every organ in the body has been involved by this process at one time or another, but lymph nodes, lungs, spleen, skin, bone, the uveal tract, parotid gland, liver and the central nervous system are the organs most commonly involved.

Historically, Hutchison in 1875 was the first to describe this process. Boeck, for whom the disease is named, described the histologic findings in 1899 and since that time not very much has been added.

Ordinarily, sarcoidosis occurs in the age group between 20 and 40 years. Negroes are more apt to have the disease, and the incidence is higher in females.

No specific etiology is known. There seem to be two schools of thought on the subject. One is that it is a non-caseating form of tuberculosis, in which presumably the virulence of the tubercle bacilli is very low. Other people do not agree with this at all, but think it is a form of reticulo-endotheliosis. Others believe that it is due to a virus. The consensus at the present time is that it probably is related in some manner to tuberculosis. The mortality rate is approximately 25 per cent. Of this 25 per cent, many die of tuberculosis. The disease may start as Boeck's sarcoid and end up as classic tuberculosis. Some persons become totally blind as a result of uveal tract involvement. Some die of pulmonary sarcoidosis. This patient had pulmonary sarcoidosis rather extensively, but he also had a rather diffuse bronchopneumonia, and an old infarct of the left ventricle of the heart.

Dr. Clark: Are there any questions you would like to ask Dr. Carter?

Dr. Hamilton: Was there considerable involvement of the hilar nodes?

Dr. Carter: There was hardly a node in the body that was not involved. The central nervous system was the organ system most severely involved.

Student: Could you make a statement as to the cause of death?

Dr. Carter: Lack of adequate aerated lung tissue due to bronchopneumonia, edema and sarcoidosis was considered to be the cause of death.

Dr. George C. Albright, Iowa City: Do you think an acute edema of the brain would explain his projectile vomiting?

Dr. Carter: No. As a matter of fact, the brain was within normal limits as far as weight was concerned. It was not particularly congested. I should mention that, in addition to the small tubercle-like lesions in the meninges, particularly at the base of the brain, there was a plastic exudate. The material was sent to Dr. Vorwald, director of the Trudeau Sanatorium at Saranac Lake, who stated that it was his opinion that the case was one of Boeck's sarcoidosis. We did ask him at that time whether the streptomycin therapy might have caused any change in these lesions. It was his opinion that probably the therapy did not alter their appearance. We have not had any reason to believe that streptomycin changes the histologic pictures of tuberculosis.

Dr. Wise: Did you say that the streptomycin does not change the picture of tuberculosis, or of Boeck's?

Dr. Carter: Streptomycin may change the histologic appearance of tuberculous meningitis insofar as patients may live longer.

Dr. Clark: Both Dr. Wise and Dr. Sahs very conveniently did not mention that, during the stay at Oakdale and here, sarcoid had been thought of; at least, it was discussed. If I recall, the diagnosis with which the patient came to us from Oakdale was that he had meningitis of undetermined etiology. As you can see, Dr. Sahs and the doctors at Oakdale were forced into the position that they could not be sure about the nature of this disorder. It seemed most likely to be tuberculous meningitis, at least from a treatment standpoint.

Dr. Wise: would you like to comment further on this case, now that we have announced the diagnosis?

Dr. Wise: Not much, except that I am surprised at the diagnosis. It was certainly not suspected by me.

I think it is interesting, in view of the question that was asked, that this patient had a positive tuberculin. We consider positive tuberculin in Boeck's sarcoid as an unusual sort of thing. However, sarcoidosis is not ruled out by the finding of a positive tuberculin.

Dr. Clark: It is my job to discuss the treatment of this disorder with cortisone. Not a large number of patients have been treated as yet.

Out of about 10 or 12 patients that were treated for some period of time, it is stated that in no patient was there any progression of the lesions during the treatment with cortisone; but the response to cortisone was irregular and often transitory. Most, but not all, of the patients, after stopping treatment, had some evidence of relapse.

At any rate, it was the writer's feeling that these patients did not get worse while they were being treated with cortisone. I wonder, Dr. Wise, if they had tuberculosis, would the lesions respond to cortisone?

Dr. Wise: I am glad Dr. Clark asked that question, because we feel that cortisone or ACTH is definitely contraindicated in patients with tuberculosis. I say that in view of research up to the present time in the large doses that are being used. Dr. Max Lurie of Phipps Institute, who is probably doing as much work with this in tuberculosis as anyone, feels that cortisone might eventually have some place in the treatment of tuberculosis, but it will probably be in very small doses. I believe the reason for the statement to which Dr. Clark referred, i.e., that the lesions in Boeck's became no worse with cortisone, was based on the fact that when tuberculosis itself is treated with it, we see a pathological situation just to the contrary. There is within the cells a tremendous multiplication of tubercle bacilli, yet the cell wall remains intact; but upon cessation of therapy with the cortisone, there is a breakdown of the cell loaded with tubercle bacilli, and there usually follows a general dissemination of the disease. We feel that, in a case of Boeck's sarcoid, be certain, if possible, that you are not dealing with tuberculosis before considering treatment with ACTH or cortisone, for the results may be fatal.

Dr. Carr: I think it might be of some interest to point out that we now have a patient with sarcoidosis on the Medical Service. He is a 19 year old high school student who was able to run the quarter-mile in about 55 seconds. He had an acute febrile illness of sudden onset, and within a few days after he was hospitalized the diagnosis of sarcoidosis was suggested. However, he was still being studied some six to eight weeks later, because no one could be certain that he did not have disseminated miliary tuberculosis. Finally, a small nodule in the rectus muscle, previously noted but passed off as inconsequential, was biopsied; and a lesion typical for sarcoidosis was demonstrated. The body temperature continued to be elevated.

He was finally given cortisone. He responded and gained about 40 pounds. Cortisone was continued at home, and he recently returned to the hospital. He has been almost afebrile. The illness was temporarily improved by cortisone administration.

A person with sarcoidosis may respond to cortisone; but, prior to a therapeutic attempt, we must determine the presence or absence of tuberculosis to the best of our ability.

SCIENTIFIC EXHIBITS AT ANNUAL MEETING

- American Medical Association, Chicago
- Testing the Drinking Driver
- ANTHONY M. BARONE, M.D., Chicago
- Saphenous Ligation
- FRANCIS C. COLEMAN, M.D., Des Moines and JOHN R. SCHENKEN, M.D., Omaha
- Enterobius Vermicularis
- College of Medicine, State University of Iowa, Iowa City
- MISS ALICE WHITE—College of Medicine Administration
- Thyroid Clinic—Diagnosis and Treatment of Thyroid Disorders
- Radiation Research Laboratory—Biochemical Studies in Tissue Culture
- Department of Orthopedic Surgery—Orthopedics
- E. O. THEILEN, M.D., W. H. AMES, M.D., J. L. EHREHAFT, M.D., J. W. CULBERTSON, M.D., and L. E. JANUARY, M.D.—Mitral Valvuloplasty
- ROBERT T. TIDRICK, M.D.—Surgery of Infants and Children
- Iowa Hospital School for Severely Handicapped Children
- EDWIN DAVIS, SR., M.D., LEROY W. LEE, M.D., and EDWIN DAVIS, JR., M.D., Omaha
- Clinical Use of Urecholine in Hypotonic Vesical Dysfunction
- O. E. HALLBERG, M.D., Mayo Clinic, Rochester
- Nosebleed and Its Management
- Iowa Anesthesiological Society Study Commission, Burlington (HARVEY EASTBURN, M.D.)
- Anesthesia Study Commission
- Iowa Division, American Cancer Society, Mason City
- Lung Cancer
- Iowa Safety Congress, Des Moines
- Child Safety Exhibit
- Iowa Society for Crippled Children and Adults, Des Moines
- Craft and Hobby and Services
- Mental Health Institute, Independence
- Art Products of the Mentally ill
- A. E. PERLEY, M.D., and MAURICE N. WICKLUND, M.D., Waterloo
- Radium Technic in Treatment of Carcinoma of the Cervix
- R. E. SMILEY, M.D., Mason City
- A Coroner's Responsibilities
- State Department of Health, Des Moines
- RALPH H. HEEREN, M.D.—Brucellosis (Tentative)
- MR. LEONARD C. MURRAY—Health Education
- Veterans Administration
- RACHEL BAUMGARTNER and BETTY NYLUND—Medically Prescribed Occupational Therapy
- LOUIS T. PALUMBO, M.D., and RICHARD E. PAUL, M.D.—Primary Inguinal Hernioplasty
- LOUIS T. PALUMBO, M.D., LLOYD F. QUIRIN, M.D., and RUSSELL W. CONKLING, M.D.—Lumbar Sympathectomy in the Treatment of Peripheral Vascular Disease
- PAUL J. TRIER, M.D., and MILTON DORFMAN, M.D.—Radiation Therapy of Cancer of the Head and Neck
- J. C. McQUEEN, M.D., and R. R. REMBOLT, M.D.—Convulsive Disorders in Children
- Department of Ophthalmology
- University of Iowa Hospitals
- R. E. GUNN, M.D., Boone

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MRS. MARILYN McLAUGHLIN, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.Van Meter
DANIEL A. GLOMSET, M.D.Des Moines
TOM D. THROCKMORTON, M.D.Des Moines

PUBLICATION COMMITTEE

ROBERT N. LARIMER, M.D., Trustee.....Sioux City
LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M. D., Trustee.....Newton
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9

Vol. XLII

MAY, 1952

No. 5

HOW MANY MAN HOURS IN A YEAR?

How many man hours in a year? Do you wonder what we are talking about? Well, what we have in mind is the number of man hours contributed to State Society work in the past year. For the past eight years the officers of the State Society have been telling of the greatly increased activities of the organization. They have stressed the many demands made upon us, and the necessity for a greater office force and larger quarters.

It sounds well, you probably say, but it's pretty vague if you aren't familiar with the picture, if you yourself haven't been called upon to help. For that reason, a count is now being made of the approximate number of hours that have been given voluntarily by members of the Society for Society affairs. An announcement of the figure will be made at the annual meeting, and we know it will startle you by its size.

We feel confident this survey will be an eye-opener to many of our members. We think it will warrant further comment in our next issue, and we invite you to look for the report.

Remember, some of your colleagues are working long and hard in your interests. Read the survey and learn more of what your Society is doing.

CORTISONE, ADRENAL-CORTICAL ATROPHY
AND SURGICAL DEATHS

Beyond doubt Cortisone has proved a boon to many patients suffering from conditions heretofore without remedy or even effective palliative therapy. However, with the increased usage of this

drug, certain undesirable side effects have become distressingly evident.

One of the more recently documented and disastrous effects of Cortisone is its actual potentiation of surgical shock *under certain definite conditions*. It has been obvious that Cortisone therapy causes adrenal-cortical atrophy. However, it has not been generally appreciated that in dosage as low as 50 mgm. per day, Cortisone in a very few days may cause adrenal-cortical suppression which lasts for some weeks after the brief exhibition of the drug. This slow period of recovery from adrenal-cortical atrophy, is usually uneventful to the patient unless he sustains a sudden "stress." This stress may seem relatively trivial: a simple fracture, an anesthetic or an infection. The inhibited, atrophic adrenal cortex by laboring at top speed can, with difficulty, maintain its role in the body economy. However, it is incapable of meeting the abrupt strain placed upon it by the stress reaction. Rapidly increasing and profound "shock" is the result—the shock of a severe, untreated Addison's disease under stress.

Two features of shock in the patient with adrenal-cortical suppression are of note: (1) The severity and depth of the shock syndrome are entirely out of proportion to the injury or stress sustained. (2) The response of the patient to plasma, whole blood, and vaso pressor agents is completely unsatisfactory.

Death has resulted in several such cases from intractable "shock" following simple anesthesia and without operation. Death has also followed relatively minor trauma in patients with Cortisone induced adrenal-cortical atrophy.

The treatment of such cases is both prophylactic and definitive. (1) By prophylaxis it is meant that every case receiving or who has recently received Cortisone and in whom operation is indicated, Cortisone should be administered in dosage of at least 200 mgm. a day before and after surgery—gradually tapering off the postoperative dosage as indicated. (2) As definitive treatment, it is meant that the sudden onset of this rapidly fatal syndrome should be recognized or suspected for what it is. Urgent inquiry should be made, if possible, as to the recent, previous use of Cortisone by the patient and if definite knowledge is not available or is positive, immediate parenteral therapy with Cortisone in large amounts should be instituted. Therapy of this type has been almost miraculously lifesaving in several instances in which no response had been obtained to more routine measures.

Cortisone, it would seem, is to remain a part of the clinician's armamentarium for a long time. There is no reason to deny this medication, when indicated, because of the above mentioned "stress-shock syndrome"; but as the usage of the drug increases, it behooves us as physicians to bear this possible complication in mind. An awareness of this situation must be maintained if occasional fatalities are to be averted.

GOOD CITIZENSHIP

We have no way of knowing exactly how many physicians in the Nation went to the polls in the last Presidential election, but we have heard that doctors in the past have not distinguished themselves in the matter of registration and voting.

Since 1948 the members of the medical profession have shown marked improvement in their voting performance and their interest in public affairs. However, we still have a long way to go. The objective in 1952—a critical year of decision if there ever was one—should be nothing less than a 100 per cent registration and voting record by physicians.

The right to vote was not easily won. Voting is a democratic method by which the people decide issues and choose their leaders and governments. Freedom to vote is essential to self government, whether carried on directly or through elected representatives of the people. The United States of America will be a republic only so long as its people remain independent and can vote freely for the candidates they think will govern best.

Only about half of the eligible voters in this country exercise their privilege of voting in National elections. It is up to physicians to set an example and lead the way in the effort to improve that record. The more people who use that privilege, the longer it will last. Do your part: first, *Register*; then, *Vote*. And of equal importance, see that your family does the same.

INTRA-OCULAR LENSES

One of the most recent developments in the use of acrylic lenses has been reported for the improvement of vision following cataract extraction.* No surgical operation surpasses modern cataract extraction in doing what it is designed to do, for the defective part is removed under local anesthesia in a single stage through an incision which heals with an invisible scar. But the lens, an important part of a highly specialized organ, is lost and cure is complete only when another lens is substituted. Extraction alone is but half the cure for cataract.

Now since 1949, 200 years after Daviel's first extraction, it has proved possible successfully to substitute for the missing lens and artificial intra-ocular lenticulus capable of producing an excellent visual result. Such a lens can remain in the eye for at least two years without causing irritation.

An eye which has undergone cataract extraction suffers many disadvantages. Accommodation is inevitably lost, but this is of small practical importance since the loss is physiological in most persons of cataract age. The eye is completely out of focus without a spectacle lens of about

+ 11 D and, when washing or bathing, the patient is practically blind. Cataract glasses are cumbersome, disfiguring and heavy, and, what is more important, function only at their best when the view is through the optical center. Oblique views produce aberration and apparent displacement of objects which makes patients feel uncertain of the position of steps and other obstacles and gives rise to lack of confidence in traffic. For these reasons, though 6/6 vision is often attained, the sight is not so good as this high acuity suggests. If the other eye is normal or has even moderate vision, the two eyes when focused are incompatible, for in addition to producing aberrations the aphacic spectacle lens magnifies the retinal image by a third. A contact lens would considerably reduce these disabilities, but the image of the aphacic eye would still be magnified by a sixth. Moreover, most cataract patients cannot insert contact lenses or do not persevere with them, because of the irritation they cause. Surgeons are often reluctant to remove even a mature cataract if the other eye has moderate sight, for patients often prefer to continue using the eye which has not undergone operation and has an acuity as low as 6/24 rather than the aphacic eye which can read perhaps 6/6. The new technic of inserting an artificial intra-ocular lens is particularly indicated in monocular cataract or when the other eye still has fair sight, since patients generally have no difficulty in coordinating the two eyes and appreciate binocular vision from the start.

In designing the intra-ocular lenticuli it was decided to make them about 1 mm. less in diameter than the natural, for ease of insertion and to obviate pressure on the ciliary region and filtration angle, which might tend to produce cylitis and glaucoma. The earliest lenses were made 8:35 mm. in diameter and with curvatures of the radii attributed to the natural lens. But in the human eye it was found, as it could be in no other way, that such a lens was too strong.

The acrylic lenticulus may be inserted immediately after extraction of the cataract or at a second operation some time later. The two-stage operation is recommended only when the cataract has been caused by a perforating wound, or when it has proved impossible at the extraction to remove all lens matter and time has to be allowed for absorption of cortical remnants. In two-stage operations difficulty may be experienced in freeing the iris from the lens capsule, for synechiae may be found not only at the pupillary margin of the iris.

The operation is clearly more complex than simple extraction. The key to success is to introduce the lens beneath the lower part of the iris before the forceps' grip is relaxed. If, however, the lenticulus is found to be entirely in the anterior chamber, it is advisable to grasp it again by the peripheral groove and to reinsert it, for otherwise it is very difficult to hook the lower

* Ridley, H.: Intra-ocular acrylic lenses after cataract extraction. *Lancet*, 262:118-121 (Jan. 19) 1952.

edge of the pupil over the lens. The iris hook has a pliable stem so that it may be bent to facilitate this maneuver if necessary.

Ridley has reported use of acrylic lenses in 25 eyes, 22 of which are all successful in that binocularly the visual result is better than it would have been with simple extraction alone. Naturally the question arises regarding the future of such a procedure in spite of the apparent success in this group of patients. Orthopedic surgeons have found acrylic replacements of femoral heads occasionally unsuccessful due to the patient's inability to tolerate such a foreign body. One also wonders what might happen if the substituted lens were to sublunate and come in contact with ciliary body. Apparently such complications have not arisen in this author's experience. In view of Ridley's success, it would appear that there now is some distinctive advances to be made in the treatment of another disabling condition peculiarly affecting the elderly individual.

WORLD HEALTH DAY

April, 1952 was notable in Iowa for one of nature's rare occurrences, an earthquake. Accompanying this was the return of rather unseasonable weather and the floods on the eastern and western borders of the state. Probably most doctors in the State were unaware of the fact that April 7 had been designated as World Health Day.

The World Health Organization established in September, 1948, is one of the largest of the specialized agencies of the United Nations. The theme of the organization for 1952, "Healthy Surroundings Make Healthy People," points to a goal shared by all nations. Particular emphasis was directed toward environmental sanitation.

The chief preventive measure for most communicable diseases is the creation of a hygienic environment. The sanitary engineer is concerned principally with the fields in which people are in constant relation: the air contact, the water contact and the food contact. Clean air is an increasing problem of industrial cities and a perennial problem of housing everywhere.

An abundant supply of pure water is a cornerstone of healthy living. It is insurance against such water-borne diseases as typhoid fever, cholera, the diarrhoeas and dysenteries. The recurrence of epidemics has concentrated attention on the improvement of water supplies in most cities and important concentrations of population. But in many towns, villages and rural areas, in all too many cities, in large parts of the earth, contaminated or impure water is still the rule rather than the exception.

To summarize, this year's World Health Day offered an excellent opportunity to focus the attention of the public and of public health workers in each country on the subject of environmental sanitation. Healthy surroundings are the direct

concern of every man, woman and child. Their achievement requires that public health workers join hands with the civic elements in each community—the doctors, teachers, priests, nurses, civic leaders in social and cultural organizations, in the common task. The World Health Organization, operating in the Americas through the Pan American Sanitary Bureau, stands ready to render every possible assistance, to channel to each country the experience of all countries, so that each may profit by the advances made in the broad field of public health in every corner of the earth.

CIVIL DEFENSE ADMINISTRATION OPENINGS

While the Federal Civil Defense Administration's regional officers are authorized to employ full time medical directors to handle medical civil defense problems arising within such regional geographical areas, to date the Federal Civil Defense Administration has encountered difficulty locating physicians qualified and willing to accept these positions. In view of the urgency for hiring these medical directors at the earliest possible date, the Council on National Emergency Medical Service of the American Medical Association is attempting to assist in locating qualified individuals. The salary for these positions is \$10,800 per year.

Iowa physicians interested in such positions should contact Mr. Carl W. Gabel, 108 North Ottawa St., Joliet, Ill.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a. m.

THE DOCTOR'S REPORT

- May 1.....Psychiatric Aspects of Aging
- May 8.....The General Practitioner and the Adolescent
- May 15..Healthy Communities Don't Just Happen

BEFORE THE DOCTOR COMES

- May 22.....Sniffles, Sore Throat and Cough
- May 29.....Fever

WSUI—Tuesdays at 11:45 a. m.

GOLD MEDAL DOCTORS

- May 6.....Seele Harris
- May 13.....Evarets A. Graham
- May 20.....Allen O. Whipple

THE DOCTOR'S REPORT

- May 27.....The American Doctor Today

President's Page

Whenever an individual follows an exceptionally strong man in office, there is bound to be a feeling of humility and futility. I cannot escape this feeling as I review the splendid leadership Dr. Konzett gave us last year.

However there are definite advantages when one's predecessor has been strong, for while many problems have been solved, the year was not long enough to complete others; so this gives us the opportunity to carry them through to completion.

I assure you no effort will be made to instigate new projects this coming year nor will there be any attempt toward anything spectacular, rather every effort will be made to coordinate our various activities in order that we may have as efficient an organization as possible.

To this end, we shall welcome any suggestions, criticisms or gripes at any time. Please feel free to express your views. Your Officers and Committees cannot carry out your wishes, if you do not express them.

This election year will be a busy one, but if we will all pull together, I know it will be a successful one also.

A handwritten signature in cursive script, reading "B. J. Whitaker". The signature is written in dark ink and is positioned above the printed name "President".

President

General Manager's Page

OUR PURPOSE

In his President's Page of June, 1951, Dr. Konzett announced that he would acquaint the membership with many of the activities of the central office and also of the organization of the State Society as a whole. With the advent of the General Manager's Page, I have attempted to coordinate my message with those of the President's. The net result of these articles has been that we have discussed the Council, Trustees, Procurement, Executive Council, Speakers Bureau, progress being made in our health program, activities of the various districts and our TV programs.

On the last day of the annual session, the incoming President announces his committee appointments. The organization of these various committees, plans for the activities and the actual placing in operation has always been a difficult matter to achieve at an early enough date to really set the wheels in motion before late fall. Thus, valuable time has been lost in continuing the activities of the Society.

PLAN NEW MEETING

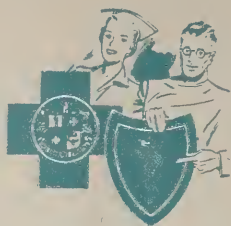
President Whitaker has accepted my suggestion that a meeting of every committee in the Society be held within 40 days following the Annual Meeting. Organization of the committee and definite plans for the ensuing year will be accomplished before the June meeting of the Council. This will permit the General Manager to present to the Council plans for the major activities as well as the various plans for coordination of the Society's activities.

The work of both the Council and the Executive Council during the past year has been carried on at a very high plane. Your General Manager has appreciated this fine cooperation and direction, and he is certain that by eliminating the inactives during at least three or four of the summer months, this office will materially increase its efficiency.

R. D. Bernard, M.D.

General Manager

BLUE CROSS



BLUE SHIELD

PSST... ASK THE DOCTOR TO PUT YOU IN
THE HOSPITAL 'TIL YOUR FINGER HEALS...
YOU'D ENJOY
A REST AND
YOU'VE GOT
BLUE CROSS
AND BLUE
SHIELD!



CATASTROPHIC ILLNESS SERVICE

Officials of California Physicians Service have advised that 81,000 people are now covered under their catastrophic illness service. This service was first made available to CPS members about two-and-one-half years ago. Eligibility is limited to groups of 25 or more employees who are covered by CPS basic contracts. It provides payments for medical and surgical services for a period of two years from the date CPS first provides services for each non-concurrent listed illness or until \$5,000 in benefits has been paid whichever event occurs first.

Benefits apply to 23 catastrophic conditions. Some of the conditions are as follows: cancers, tuberculosis, poliomyelitis, osteomyelitis, diabetes, rheumatic fever, brain tumor, etc. The plan requires a health statement on each person who is to be protected by this service.

According to CPS officials their experience to date has been fairly good. However, they are awaiting the results of a comprehensive study which is to be completed early this year before making any predictions for the future. They have not encouraged their sales force to push the sale of this catastrophic plan but have offered it on request of eligible groups and to meet competition. We are all anxiously awaiting the results of this study in anticipation of providing a similar program to Iowa Blue Shield members.

BLUE SHIELD MONTHLY STATISTICS

March 1, 1952

| | |
|-----------------------------------|--------------|
| Blue Shield Members..... | 321,197 |
| Claims Processed for Payment..... | 6,594 |
| Amount Paid in Claims..... | \$200,689.07 |

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. HOWARD W. SMITH, Woodward

President-Elect—MRS. J. DONALD HENNESSY, 205 Frank St., Council Bluffs

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

THE LONG VIEW

We are rounding out ten years of service as Publications Chairman for "The Woman's Auxiliary News." This calls for reminiscing as to the purposes and accomplishments of the Woman's Auxiliary to the Iowa State Medical Society. In 1942 there were 19 counties organized with a membership of 381. Our latest figures show 35 organized counties with a membership of about 900.

The activity of doctors' wives on the local level is still the most effective result of their membership in the Auxiliary. The results, however, are largely stimulated by planning and direction on the state and national level. Perhaps the most effective work that has been done on a broad scale has been the publicity effort against socialized medicine, and this issue bound the Auxiliary together more firmly than any other to date. Along with this, the Auxiliary promoted publicity and disseminated information in regard to the newly organized Blue Cross and Blue Shield Insurance.

During these years the Auxiliary has promoted nurse recruitment, cooperated in a survey of nursing facilities in the state and developed a Nurses' Loan Fund which has assisted three girls to the extent of \$980.00. It is to be regretted that the 50 cents per member assessment for the project has not been met by half the counties.

In recent years the State By-Laws have been revised and re-printed. The Councilor system has been established to correspond with the working principles of the Iowa State Medical Society. Dues have been raised to cope with the state and national needs more successfully. Permanent official record books have been set up for State Officers and State Chairmen of Committees. Last year saw the birth of the State Auxiliary Year Book.

Highly commendable work has been done by several of the larger county Auxiliaries in sales of articles made by the handicapped. Doctors' wives have cooperated with the cancer, polio, heart, tuberculosis programs, with allied interests and health councils. In short, they are to be found at work wherever good health is the issue. They are the backbone of health programs in organizations and clubs. They are intelligent, informed

persons interested in their husbands' business and in the health of their communities.

The war years brought many changes. While due regard has always been given social life in the Auxiliary, a new seriousness of purpose arose and attention became focussed on problems and projects with a new enthusiasm which is still much alive.

We have labored diligently at presenting an over-all Auxiliary picture in "The Woman's Auxiliary News" and continue to hope that county response will improve. We feel, however, that a limited number of meetings per year understandably reduces monthly news. Each new year brings a new group of officers, some of them without previous experience who cannot possibly grasp all of the necessary functions in a year's time. Members are widely dispersed in some counties so that interest is often lukewarm.

When we fell heir to Publications, we received a manila folder of materials. Today our material fills two cartons and a section in a steel file for irreplaceable items. We are proud of the bound copy of "The Woman's Auxiliary News" which covers the period from 1938 through July, 1949 and provides a permanent record of interests and activities. We are proud of our exchange service of Auxiliary publications with 20 states. A study of these reveals the similarity of purpose and problems which exist all over the United States. One of the chief problems which seems to be nationwide is the poor response to *Today's Health* and *The Bulletin* in proportion to Auxiliary memberships.

It is impossible to condense events, accomplishments or emotions in a few short paragraphs, but our associations have been very pleasant. We have learned more than we have been able to give. Much could be said for the stabilizing influence of the experienced; and much can be said for the inspiration and freshness of new-comers. We need balance and stimulation in all phases of Auxiliary work. May both be present with us always!

MRS. KEITH M. CHAPLER

COUNTY AUXILIARY ACTIVITIES

On March 18 the Blackhawk County Auxiliary held the banner meeting of its history preceded

by a dinner at the Cedar Falls Women's Club. Mrs. Frederic G. Loomis, President, presided. Special guests were the winners of the county-wide essay contest which was sponsored by the Auxiliary in conjunction with the American Association of Physicians and Surgeons. The topic was "Why the Private Practice of Medicine Furnishes This Country With the Finest Medical Care." The three winning essays were entered in the national competition in late April for the grand prize of \$1,000.00.

Dr. Craig D. Ellyson, medical advisor to the Auxiliary, presented the awards. A \$25.00 first prize went to Miss Jackie Thompson, Waterloo. Miss Thompson is a nurse's aide and plans to enter training following graduation from high school. The \$15.00 second prize was awarded to Bob Hurley and the third \$10.00 prize to Miss Mary Lou Webber, both of Waterloo. Prizes of \$10.00 each were given to the following Cedar Falls high school people: Miss Janie Hill, Miss Lois Werner, Miss Ellen Whitmore and Dan Wise.

Other guests were Dr. and Mrs. Leland Sage. Dr. Sage was one of the judges. Mrs. Rudolph F. Nielsen was chairman of the contest committee. The three winners read their essays aloud and a lively discussion followed.

MRS. FREDERIC G. LOOMIS

The Delaware County Auxiliary met March 10 at the Memorial Hospital in Manchester for a dinner meeting with the doctors. Mrs. Holger M. Anderson of Strawberry Point, Mrs. Walter M. Block and Mrs. Regis E. Weland of Cedar Rapids were guests. The Auxiliary voted a year's subscription to *The Bulletin*. Mrs. Harry H. Ennis was appointed legislative chairman and Mrs. James K. Stepp, public relations chairman.

MRS. JOHN TYRRELL

Six members of the Emmett County Auxiliary met at the home of Mrs. James J. Clark, Estherville on March 6. Legislation was stressed, the need for keeping informed about candidates and issues and attending political meetings. Plans were made for a tea to be held in April for girls interested in nursing.

MRS. JAMES P. CLARK

The Webster County Auxiliary sponsored a nurse recruitment program at the Fort Dodge High School as its March project. All girls interested in the profession were invited to attend. Several fields of nursing were discussed. Miss Cora Smith, industrial nurse at the Tobin Packing Company, talked on industrial nursing. As President of the first Industrial Nurses Association in Iowa, she stressed the tremendous growth over the past 30 years in this field. The original membership was 24; now it is over 11,000. Miss Anetta Hammersland, an industrial nurse in the Hawaiian

Islands for 21 years, spoke of the glamor of her work there.

Miss Katherine Lacey, Instructor of Nurses at St. Joseph's Mercy Hospital, discussed "Preparation for Nursing." Miss Nancy Sittig, instructor of Pediatric Nursing at the University of Iowa, Iowa City, stated that pre-nursing aptitude examinations are now being given to girls who are interested in the profession. The four year course now available at the University is a complete college course with two years in the liberal arts school.

Mrs. Marvin W. Burleson, chairman of the Nurse Recruitment Committee, described the Future Nurses Club which is being organized and told of the tuition scholarships which will be offered. Those who assisted Mrs. Burleson with the program were Mrs. Charles J. Baker, Mrs. John C. Shrader, Mrs. Douglas Bradshaw and Mrs. Emerson B. Dawson, president of the Auxiliary. Special guests were the Supervisors of Nursing at Lutheran Hospital, Mrs. Rollie Wendler, Mrs. A. J. Steinhoff and Mrs. D. A. Samuelson. The program closed with the serving of cokes and cookies.

MRS. ERNEST M. VAN PATTEN

The Women's Auxiliary to the Dallas-Guthrie Medical Society enjoyed a luncheon with the Medical Society members in the Women's Club Rooms at Guthrie Center on April 20. Following the luncheon the regular meeting was held with Mrs. Frank A. Wilkie, the President, presiding. Mrs. Rose Jacobs, hospital administrator of Skiff Hospital, Newton, gave a very interesting talk on hospital problems and administration. The group toured the Guthrie County Hospital and enjoyed coffee in the hospital dining room.

MRS. DONALD W. TODD

PLEDGE

I pledge my loyalty and devotion to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation, and ever sustain its high ideals.

SUGGESTED READING

The Legislation Committee suggests that Auxiliary members read the AMA release "Which Way America" in order to stimulate personal and group interest in voting. Good health for all begins on the local basis and progresses to the national. The responsibility of good citizenship is good government and neither should end when the polls close.

CHALLENGE TO WOMEN OF IOWA

The U. S. Public Health Service, in the autumn of 1950, selected Iowa as a testing ground for a project designed to decrease the number of deaths

from breast cancer. The results of the test in Iowa will do much to determine the value of visual education, and will serve as a guide for the entire nation. Participating in the project are the county chapters of the American Cancer Society, the Division of Cancer Control of the State Department of Health (E. G. Zimmerer, M.D., Director), the Iowa State Medical Society and all county medical societies.

Breast cancer takes the lives of 20,000 women each year, approximately 400 in Iowa alone. Chances for cure of early breast cancer are high, between 80 and 90 per cent, yet the record shows that less than 35 per cent are being cured. Such a discrepancy can be eliminated by early detection, before the cancer has spread to the lymph nodes. If a woman were to go to her doctor for a routine health examination twice each year, as recommended by the Society, she could still develop cancer of the breast between examinations, and by the time she presented herself for her next check-up the disease could be too far advanced to give promise of complete cure after treatment. The answer, then, is regular, once-a-month *self examination* for symptoms of the disease.

The 15 minute color film, "Breast Self-Examination," has been produced to teach women a simple technic for examination of the breast. Any women's organization wishing to view the film may borrow it without cost from any of the following:

The county ACS chapter (many chapters have purchased copies; all may obtain them promptly).

The Iowa Division, American Cancer Society, state office, Mason City.

The Division of Cancer Control, State Department of Health, Des Moines.

Speakers are available from the same sources. Members of the Iowa State Medical Society are giving a great deal of time for talks to lay audiences, as their contribution to the project. A special take-home pamphlet called "Personal Memo," describing the technic illustrated in the movie, is available for distribution; pamphlets covering other sites and various phases of the cancer problem are also furnished. Literature of this kind is made available without cost, as part of the Iowa Division's education, supported by voluntary contributions from the public.

In the state of Iowa there are 800,000 women who should see the film. The government agency considers a total audience of 400,000 adequate for testing and surveying purposes. Reports from county chapters have already indicated that this one educational tool is saving a "life a day in Iowa." Can we be satisfied until every one of the 800,000 women has had an opportunity to learn this life saving habit?

SALLY FOSSE
Public Education Director

MINUTES OF MEETINGS OF STATE SOCIETY
OFFICERS AND COMMITTEES

MEETING OF THE COUNCIL
March 20, 1952

The Council of the Iowa State Medical Society met at Hotel Commodore in Des Moines on Thursday, March 20, with the following persons present: Doctors C. C. Hall of Maynard, C. H. Cretzmeyer of Algona, M. T. Morton of Estherville, W. L. Downing of Le Mars, E. M. Kersten of Fort Dodge, O. D. Wolfe of Marshalltown, H. A. Housholder of Winthrop, C. A. Boice of Washington, E. B. Howell of Ottumwa and I. K. Sayre of St. Charles, Councilors; John D. Conner of Nevada, B. T. Whitaker of Boone, R. B. Stickler, A. B. Phillips and R. D. Bernard of Des Moines.

The meeting was called to order at 10:15 and Dr. Bernard reported on activities of committees appointed at the last meeting. After discussion it was voted to set up a committee on chronic illness.

Representatives from the Iowa Optometric Association were next given the floor to present some of their problems. Dr. Cecil C. Jones of the Iowa Academy of Ophthalmology presented his views, the Council discussed the problems, and it was the opinion of the group that it was not wise for any advertising campaign to make statements derogatory to other licensed professions.

Dr. Stickler discussed Speakers Bureau problems; Dr. Whitaker told of the Congress on Rural Health; and Dr. Conner spoke briefly on the work of his committee. Mr. Myers entered the meeting and reported on the conference held the day before with attorneys and doctors in regard to income tax matters, and the meeting adjourned at 4:00 p. m.

MEETING OF THE BOARD OF TRUSTEES
April 6, 1952

The Board of Trustees of the Iowa State Medical Society met in the central office Sunday morning, April 6, with the following persons present: Doctors R. N. Larimer, L. A. Coffin and J. W. Billingsley, trustees; A. B. Phillips, secretary; Boyd Anderson, treasurer; R. D. Bernard, Don Taylor, Mr. I. W. Myers and Dr. Martin Olsen.

Meeting was called to order at 11:00 a. m., Minutes were read and bills authorized. Dr. Bernard and Don Taylor reported on the Blue Cross meeting just concluded in San Francisco; Don Taylor's contract with Blue Shield was discussed and renewed for another year; an institutional copy ad from Mutual Benefit was accepted; publication of a by-line on all ads of commercial accident and health companies relative to their appearance in the *Journal* was ordered; Awards of Merit for 1952 were determined; Mr. Myers reported on the present status of the income tax problem and the Trustees voted on various proposals for future activity in this regard; the new building was discussed; the supplemental report was studied; and the meeting adjourned at 4:10 p. m.

TELEVISION SCHEDULE

WOI-TV at 9:30 p. m.

May 7.....Rural Health
May 21.....Pathology

STATE DEPARTMENT OF HEALTH

Nathaniel Diering

AGE DISTRIBUTION OF VENEREAL DISEASES IOWA 1946-1951 INCLUSIVE

A recent analysis of venereal disease cases reported in Iowa shows that more than half (53.9 per cent) of all cases of gonorrhea reported are in young people 15 to 24 years of age. This same age group accounts for only 19.7 per cent of all cases of syphilis reported. The five year age group 15 to 19 alone accounts for 16.3 per cent of the total cases of gonorrhea and 6.31 per cent of the cases of syphilis.

The figures would seem to indicate that gonorrhea is more prevalent among teenagers and young people than in older persons and that gonorrhea is more of a problem in the younger age groups

than is syphilis. However, there are two points which should be considered before arriving at such a conclusion.

First, the number of cases of gonorrhea reported represents only a small portion of the total cases actually diagnosed and treated throughout the state. This poor reporting of gonorrhea could be due to the minor role to which the disease has been relegated since the advent of penicillin therapy which offered a quick, effective and relatively painless cure. The second point to be borne in mind is that the largest percentage of syphilis cases reported are in the older age groups, (51.4 per cent between the ages of 30 and 59) and these age groups account for 70.4 per cent of the cases diagnosed as "late latent" and "other late"

GONORRHEA AND SYPHILIS MORBIDITY BY AGE GROUPS, SEX, YEAR REPORTED AND PERCENTAGE EACH AGE GROUP REPRESENTS OF TOTAL MORBIDITY FOR THE SIX YEAR PERIOD: 1946 - 1951

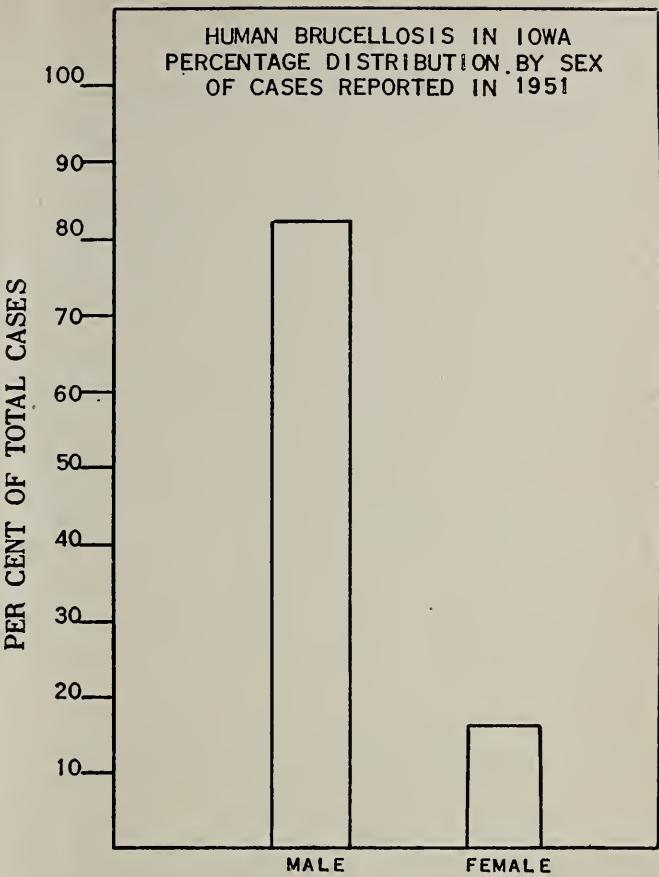
| GONORRHEA | | | | | | | | | | SYPHILIS | | | | | | | |
|-------------------|-----|------|------|------|------|------|------|-------|---------|----------|------|------|------|------|------|--------|---------|
| AGE GROUP | SEX | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | TOTAL | PERCENT | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | TOTAL | PERCENT |
| Infants 1 Year | M | | | | | | 1 | 1 | .07 | 3 | 8 | | 6 | 10 | 5 | 32 | .43 |
| | F | 1 | | 1 | | 1 | 1 | 4 | | | 3 | | 2 | 5 | 6 | 16 | |
| 1 - 4 years | M | | | 1 | 1 | | | 2 | .20 | 1 | 5 | 5 | 1 | 1 | 1 | 14 | .20 |
| | F | 7 | 2 | 2 | | | 1 | 12 | | | 1 | 3 | 1 | 1 | 3 | 9 | |
| 5-9 years | M | | 1 | 3 | | | | 4 | .52 | 2 | 3 | 3 | 1 | 1 | 2 | 12 | .28 |
| | F | 8 | 12 | 3 | 4 | 2 | 3 | 32 | | 5 | 6 | 5 | 3 | 1 | | 20 | |
| 10-14 years | M | 1 | 1 | 3 | | | 7 | 12 | .72 | 14 | 11 | 4 | 5 | 9 | 6 | 49 | .74 |
| | F | 5 | 7 | 8 | 6 | 8 | 4 | 38 | | 2 | 9 | 4 | 2 | 11 | 6 | 34 | |
| 15-19 years | M | 144 | 112 | 65 | 50 | 50 | 47 | 468 | 16.27 | 61 | 48 | 35 | 27 | 25 | 28 | 224 | 6.31 |
| | F | 204 | 154 | 100 | 73 | 53 | 77 | 661 | | 83 | 118 | 87 | 88 | 56 | 55 | 487 | |
| 20-24 years | M | 605 | 422 | 291 | 218 | 151 | 113 | 1800 | 37.64 | 186 | 154 | 144 | 99 | 79 | 59 | 721 | 13.38 |
| | F | 243 | 180 | 140 | 109 | 71 | 68 | 811 | | 174 | 172 | 147 | 132 | 93 | 69 | 787 | |
| 25-29 years | M | 342 | 217 | 159 | 140 | 89 | 96 | 1043 | 19.7 | 144 | 148 | 112 | 86 | 78 | 75 | 643 | 11.47 |
| | F | 102 | 55 | 54 | 36 | 32 | 47 | 326 | | 113 | 153 | 85 | 134 | 90 | 75 | 650 | |
| 30-39 years | M | 260 | 135 | 121 | 69 | 72 | 50 | 707 | 13.8 | 210 | 215 | 142 | 178 | 147 | 125 | 1017 | 19.23 |
| | F | 64 | 63 | 35 | 24 | 37 | 28 | 251 | | 163 | 259 | 156 | 219 | 193 | 160 | 1150 | |
| 40-49 years | M | 37 | 41 | 42 | 25 | 25 | 15 | 185 | 3.88 | 143 | 222 | 148 | 207 | 213 | 169 | 1102 | 18.08 |
| | F | 17 | 24 | 15 | 10 | 13 | 5 | 84 | | 102 | 187 | 104 | 205 | 193 | 144 | 935 | |
| 50-59 years | M | 13 | 17 | 11 | 10 | 6 | 4 | 61 | 1.21 | 90 | 180 | 111 | 229 | 188 | 194 | 992 | 14.06 |
| | F | 6 | 9 | 1 | 1 | 2 | 4 | 23 | | 45 | 111 | 54 | 147 | 127 | 108 | 592 | |
| 60-69 years | M | 4 | 7 | 5 | 2 | 4 | 3 | 25 | .40 | 47 | 121 | 70 | 132 | 139 | 161 | 670 | 8.57 |
| | F | | | 2 | 1 | | | 3 | | 20 | 62 | 34 | 64 | 61 | 55 | 296 | |
| 70-79 years | M | | 1 | | | | 2 | 3 | .06 | 16 | 26 | 19 | 20 | 29 | 28 | 138 | 1.84 |
| | F | | | | 1 | | | 1 | | 4 | 23 | 10 | 7 | 16 | 9 | 69 | |
| 80 Plus | M | | | | | 1 | | 1 | .01 | | 6 | 1 | 1 | 2 | 1 | 11 | .19 |
| | F | | | | | | | | | 1 | 5 | 2 | 1 | | 1 | 10 | |
| Age Not Stated | M | 23 | 18 | 36 | 39 | 105 | 49 | 270 | 5.46 | 21 | 62 | 29 | 57 | 62 | 59 | 290 | 5.21 |
| | F | 9 | 6 | 10 | 18 | 29 | 31 | 109 | | 10 | 70 | 24 | 72 | 55 | 66 | 297 | |
| Sub-Totals | M | 1429 | 981 | 736 | 554 | 507 | 388 | 4594 | 66.2 | 952 | 1207 | 812 | 1048 | 981 | 914 | 5914 | 52.5 |
| | F | 666 | 503 | 378 | 283 | 244 | 268 | 2342 | 33.8 | 708 | 1181 | 726 | 1078 | 904 | 756 | 5353 | 47.5 |
| GRAND TOTAL | | 2095 | 1484 | 1114 | 837 | 751 | 656 | 6937 | | 1660 | 2388 | 1538 | 2126 | 1885 | 1670 | 11,267 | |

syphilis. This then would seem to suggest probable "public health failure" in failing to locate syphilis cases earlier while in the infectious stages when they would have fallen into the younger age groups as gonorrhea does and when adequate treatment could have prevented progress of the infection to latency. The likelihood that syphilis should and probably does occur in the younger age groups at a rate similar to that of gonorrhea is borne out when we find that 54.1 per cent of all cases of primary, secondary and early latent syphilis reported are the age group 15 to 30 and further serves as a reminder of the necessity for adequate interviewing of all such cases of early infectious syphilis for their sex contacts and emphasizes the need for prompt investigation, examination and treatment of these contacts when infected.

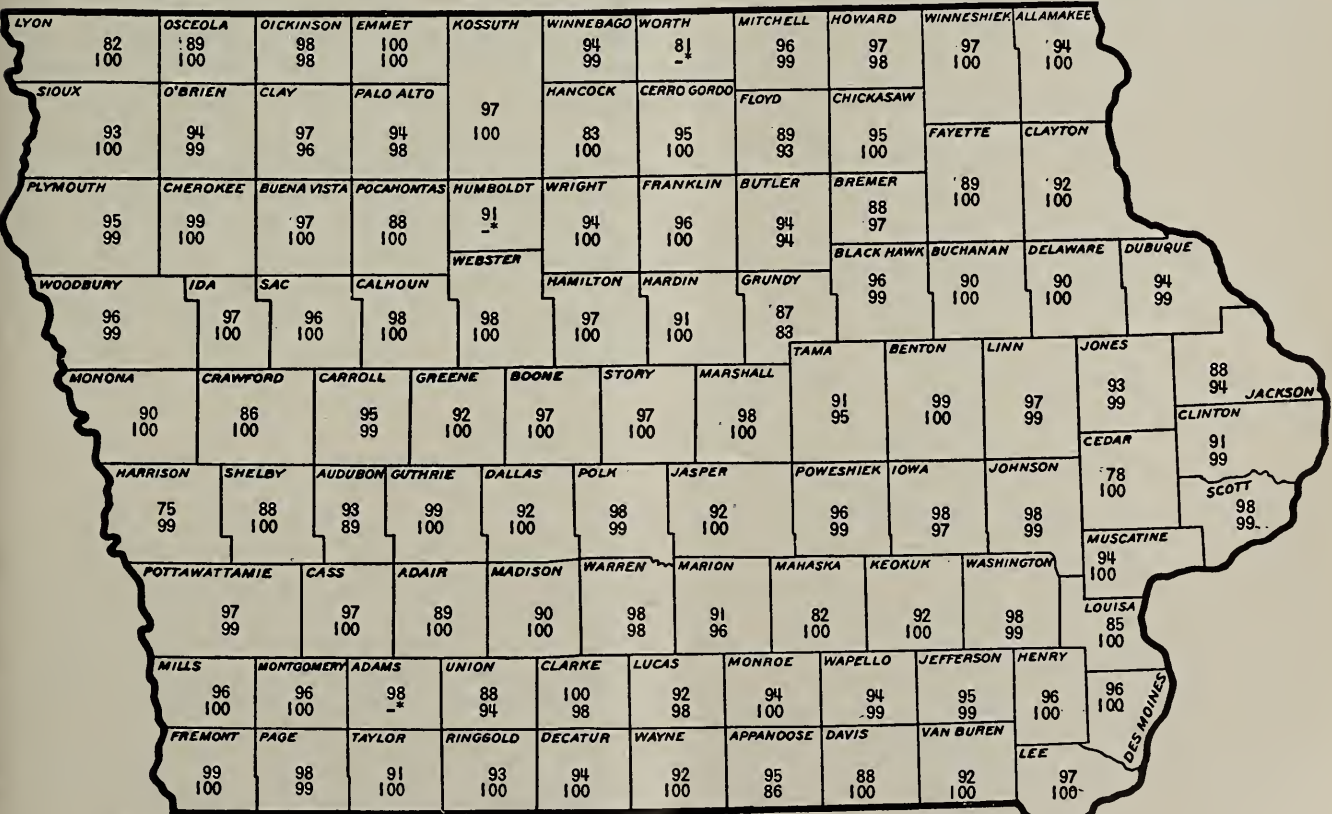
The analysis referred to above covered all cases of syphilis and gonorrhea reported to the Iowa State Department of Health from all sources for the six year period 1946 through 1951.

BRUCELLOSIS IN IOWA IN 1951

Final tabulations show that a total of 767 cases of human brucellosis in Iowa were reported in



PERCENTAGE COMPLETENESS OF BIRTH REGISTRATION; IOWA—1940 VERSUS 1950



Figures for 1950 are provisional

* No percentages were calculated because of the small number of births.

| COMPLETENESS OF REGISTRATION | | | |
|------------------------------|-------|---------------|-------|
| State of Iowa | | United States | |
| 1940 | 94.6% | 1940 | 92.5% |
| 1950 | 99.3% | 1950 | 97.8% |

1940 - Upper Figure
1950 - Lower Figure

1951. For comparison the cases reported for the last six years are listed as follows:

| | |
|------|-----------|
| 1946 | 638 cases |
| 1947 | 902 cases |
| 1948 | 412 cases |
| 1949 | 377 cases |
| 1950 | 549 cases |
| 1951 | 767 cases |

As shown on the graph, 83 per cent of the reported 1951 cases occurred in males. Only 17 per cent of the total number of cases were females. This distribution of cases by sex is about the same as it has been in Iowa in previous years. The fact that men and boys contract the disease more frequently than women and girls does not mean that males are more susceptible. Rather it is because they are more frequently exposed to the disease. They have more contact with livestock (including infected livestock) than the female population does.

COUNTY DISTRIBUTION OF CASES IN 1951
IS SHOWN BELOW

| COUNTY | CASES | COUNTY | CASES |
|-------------|-------|---------------|-------|
| Adair | 3 | Jefferson | 3 |
| Adams | 2 | Johnson | 18 |
| Allamakee | 3 | Jones | 8 |
| Appanoose | 5 | Keokuk | 13 |
| Audubon | 1 | Kossuth | 8 |
| Benton | 6 | Lee | 2 |
| Blackhawk | 20 | Linn | 26 |
| Boone | 2 | Louisa | 6 |
| Bremer | 10 | Lucas | 1 |
| Buchanan | 9 | Lyon | 5 |
| Buena Vista | 16 | Madison | 1 |
| Butler | 9 | Mahaska | 9 |
| Calhoun | 4 | Marion | 8 |
| Carroll | 8 | Marshall | 10 |
| Cass | 6 | Mills | 4 |
| Cedar | 15 | Mitchell | 4 |
| Cerro Gordo | 34 | Monona | 3 |
| Cherokee | 12 | Monroe | 5 |
| Chickasaw | 3 | Montgomery | 7 |
| Clarke | 0 | Muscatine | 14 |
| Clay | 4 | O'Brien | 9 |
| Clayton | 8 | Osceola | 1 |
| Clinton | 8 | Page | 12 |
| Crawford | 7 | Palo Alto | 8 |
| Dallas | 13 | Plymouth | 9 |
| Davis | 8 | Pocahontas | 5 |
| Decatur | 4 | Polk | 20 |
| Delaware | 9 | Pottawattamie | 16 |
| Des Moines | 7 | Poweshiek | 9 |
| Dickinson | 3 | Ringgold | 0 |
| Dubuque | 23 | Sac | 13 |
| Emmet | 4 | Scott | 14 |
| Fayette | 8 | Shelby | 4 |
| Floyd | 10 | Sioux | 10 |
| Franklin | 7 | Story | 13 |
| Fremont | 1 | Tama | 6 |
| Greene | 2 | Taylor | 7 |
| Grundy | 2 | Union | 3 |
| Guthrie | 2 | Van Buren | 2 |
| Hamilton | 18 | Wapello | 19 |
| Hancock | 3 | Warren | 5 |
| Hardin | 12 | Washington | 13 |
| Harrison | 0 | Wayne | 1 |
| Henry | 3 | Webster | 14 |
| Howard | 2 | Winnebago | 1 |
| Humboldt | 4 | Winneshiek | 7 |
| Ida | 4 | Woodbury | 20 |
| Iowa | 7 | Worth | 2 |
| Jackson | 6 | Wright | 9 |
| Jasper | 3 | TOTAL | 767 |

MORBIDITY REPORT

| DISEASES | MARCH 1952 | FEB. 1952 | MARCH 1951 | MOST CASES REPORTED FROM THESE COUNTIES: |
|-------------------|------------|-----------|------------|---|
| Diphtheria | 2 | 1 | 2 | Harrison and Polk |
| Typhoid Fever | 0 | 0 | 2* | ..... |
| Scarlet Fever | 145 | 96 | 62 | Clinton, Harrison, Polk |
| Smallpox | — | — | — | ..... |
| Measles | 908 | 266 | 210 | Black Hawk, Plymouth, Woodbury |
| Whooping Cough | 16 | 22 | 42 | Des Moines—others scattered 1 to a county |
| Brucellosis | 27 | 22 | 34 | Plymouth, Polk, Sioux |
| Chickenpox | 406 | 336 | 540 | Black Hawk, Clinton, Johnson, Linn |
| Influenza | 13 | 0 | 0 | Buena Vista, Des Moines |
| Meningitis men. | 5 | 0 | 5 | Scattered, 1 to a county |
| Mumps | 513 | 418 | 310 | Black Hawk, Buena Vista, Clinton |
| Pneumonia | 10 | 8 | 11 | Henry, Polk |
| Polio myelitis | 3 | 3 | 6 | Clinton, Jasper, Mitchell |
| Rabies in Animals | 19 | 21 | 50 | Black Hawk, Hancock, Linn, Polk |
| Tuberculosis | 52 | 63 | 77 | For the State |
| Gonorrhea | 43 | 41 | 77 | For the State |
| Syphilis | 183 | 106 | 198 | For the State |

* And 2 Thyphoid Carriers.

MEDICAL LICENSES ISSUED FROM
January 1-April 1, 1952

Medical licenses were issued to the following during the period of from January 1 to April 1, 1952: Louis Peter Alt, Dubuque; Meyer Backer, Chicago, Ill.; Norman Hayward Barnett, Dubuque; Jacqueline Marie Baumeister, Waukee; Urban John Collignon, Council Bluffs; Charles Cornell Edwards, Des Moines; John Edward Evans, Winterset; Richard Thomas Farrior, Iowa City; Russell Nicholas Frye, Iowa City; Abraham Gelperin, Des Moines; Jerome Benjamin Hathorn, Wichita Falls, Texas; John Kasper Kohlhas, Jefferson Barracks, Mo.; David A. Losasso, Iowa City; George Mongold McArdle, Omaha, Nebr.; Anthony J. Ourada, Ceylon, Minn.; Elroy Russell Peterson, Ames; Henry Fredrick Rattunde, Des Moines; Bryant Harvey Roisum, Dubuque; Francis Lenocker Simonds, Omaha; David Williams Sinton, Iowa City; Francis Miles Skultety, Iowa City and Harold Swanberg, Quincy, Ill.

KANSAS CITY SOUTHWEST CLINICAL
SOCIETY AWARDS

The Kansas City Southwest Clinical Society is offering 1952 Merit Awards of \$300.00, \$200.00 and \$100.00 to winners in a contest available to physicians who are serving a residency and/or internship in medicine in approved hospitals. Papers submitted must be original work of the resident and/or intern compiled during his service in the hospital including experimental laboratory work. All papers submitted become the property of the Kansas City Southwest Clinical Society.

Application for participation in the contest must be made in writing to the Executive Office, 630 Shukert Bldg., Kansas City 6, Mo., on or before May 15, 1952.

Iowa Academy of General Practice

President—Cecil V. Hamilton, M.D., 145 E. 4th St., Garner

President-Elect—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

Vice President—Ivan T. Schultz, M.D., 106 N. Taft St., Humbolt

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

Dear Doctors:

As incoming President of the Iowa Academy of General Practice, I wish to take this opportunity to express my deep appreciation for the honor which has been placed upon me. I definitely feel that it is an honor and privilege to serve the General Practitioners of Iowa as President of the Academy.

I have long felt that there should be some organization in the United States to help bind together the cause of the General Practitioners or family doctors. The family doctor plays a big part in the life of all the communities in Iowa, and I am sure is playing a bigger part since the Academy has been in existence.

As long as the majority of doctors in Iowa are General Practitioners, I feel definitely that the General Practitioner should and will play a large part in the policies of the Iowa State Medical Society. I feel very definitely that the Academy has furthered the principles of the family doctor to the extent that we are making ourselves known in the policies of organized medicine.

As a member of the Academy of General Practice, I feel that each one of us should make an effort to obtain new members in our organization. We are strong now, but will be much stronger with new members. It should not be too much of an effort for each one of us to ask a colleague to become a member. He has probably not taken enough time to even think about it.

This last year has been a successful year in Iowa as far as the Academy of General Practice is concerned. We have had some wonderful post-graduate classes in Des Moines. We have had outstanding men as speakers and these meetings have been well attended by both members and non-members of the Academy.

The Academy has taken an active part in getting preceptorships started for senior students at the Medical College at Iowa City, and we hope to play a part in choosing good family doctors for these medical students to work with this coming summer, as well as the following summers. We have also played a large part in doing something definite about the "splitting of fees" in Iowa.

I wish to take this opportunity to express my profound respect for Dr. Cecil V. Hamilton of Garner who has been president the last two years.

He has worked hard in his position and is to be congratulated on his accomplishments. I hope that I can carry on as well as he has done, and with your help, I am sure that we are going to have an outstanding year in the Academy of General Practice.

Sincerely,

JOE G. FELLOWS, M.D., President-Elect

WHY NOT JOIN THE ACADEMY NOW?

Every man or woman doing General Practice in Iowa should belong to the Academy if he wants to be progressive, and every one in this state wants to be modern and up-to-date. This organization is for General Practitioners alone. General Practitioners are defined as doctors of medicine who do not limit their practice to a single branch of medicine. On this basis, there are many who would not only enjoy their membership but would also profit by it, and perhaps even be able to contribute something tangible to the profession.

The best defense from inroads against us is an organized community attack. We stand in a position to do service of inestimable value to our profession as a whole by living up to the aims of the Academy. How can any government regiment its doctors, if the doctors, all over the country, stand out as well trained and adequate in their jobs? How can we prove that we, the General Practitioners, are doing our share to bring such a status of affairs about, other than by belonging to this active organized unit?

A British physician, high in one of the Royal Colleges, said that the National Health Act could never have come about in England had the General Practitioners of that country been organized as they now are in the United States. Probably the most outstanding act of the Congress of Delegates of the American Academy in 1952 was the vote to send our able Executive Secretary, Mr. Mac F. Cahal, to England this fall, in answer to an urgent request from the British General Practitioners, to have him help them organize a Royal Academy of General Practice.

Doctor, a simple post card or a word to the secretary will bring information and an application form to you promptly. Do it NOW. If you are a member, ask the first General Practitioner you see to join, and send in his name.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

CURRENT THERAPY, 1952, Latest Approved Methods of Treatment for the Practicing Physician, edited by *Howard F. Conn*, M.D. Philadelphia, W. B. Saunders Co., 1952. Price \$11.00.

HISTOPATHOLOGICAL TECHNIC, Including a Discussion of Botanical Microtechnic, by *Aram A. Krajian*, Sc.D., formerly in the Department of Pathology, Los Angeles County General Hospital, Los Angeles, Calif., and *R. B. H. Gradwohl*, M.D., Pathologist to Christian Hospital; Director, Gradwohl School of Laboratory and X-Ray Technique, St. Louis, Mo. Second Edition. St. Louis, C. V. Mosby Co., 1952. Price \$6.75.

HISTORY OF NEUROLOGICAL SURGERY, edited by *A. Earl Walker*, M.D., Professor of Neurological Surgery, The Johns Hopkins University. Baltimore, Md., The Williams and Wilkins Co., 1951. Price \$12.00.

LIVING IN BALANCE, by *Frank S. Caprio*, M.D., Washington, D. C., The Arundel Press, Inc., 1952. Price \$3.75.

SPATIAL VECTORCARDIOGRAPHY, by *Arthur Grishman*, M.D., Adjunct Physician for Cardiology, The Mount Sinai Hospital, New York; Adjunct Physician in Medicine and Assistant Roentgenologist, Beth Israel Hospital, New York; Former Adjunct Attending Physician, in Medicine and Assistant Roentgenologist, The Montefiore Hospital, New York; and *Leonard Scherlis*, M.D., Research Assistant in Cardiology, The Mount Sinai Hospital, New York. Philadelphia, W. B. Saunders Co., 1952. Price \$6.00.

SURGERY AND THE ENDOCRINE SYSTEM, by *James D. Hardy*, M.D., F.A.C.S., Assistant Professor of Surgery, University of Tennessee Medical College. Philadelphia, W. B. Saunders Co., 1952. Price \$5.00.

THE 1951 YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY (November, 1950-November, 1951), edited by *Edward L. Compere*, M.D., F.A.C.S., Associate Professor of Bone and Joint Surgery, Northwestern University Medical School; Chairman, Departments of Orthopedic Surgery, Wesley Memorial and Children's Memorial Hospitals; Consultant Orthopedic Surgeon, Chicago Memorial Hospital; Consultant in Orthopedics, U. S. Naval Hospital, Great Lakes, Ill. Chicago, The Year Book Publishers, Inc., 1952. Price \$5.50.

BOOK REVIEWS

PHYSICAL MEDICINE AND REHABILITATION FOR THE CLINICIAN, edited by *Frank H. Krusen*, M.D. (W. B. Saunders Co., Philadelphia, \$6.50).

This book provides the physician, the general practitioner and the specialist alike, with an authoritative presentation of the clinical aspects of physical medicine and rehabilitation. Its 39 chapters deal with the discussions of physical modalities, diagnosis and treatment by physical means and with fundamentals in basic sciences as related to physical medicine and rehabilitation. Specific exercises for specific conditions are listed in detail.

A group of 25 authorities contributed to make this book almost a must for all practicing physicians. —*I. Shohet*, M.D.

THE BATTLE FOR MENTAL HEALTH, by *James C. Moloney*, M.D. (Philosophical Library, New York, \$3.50).

Dr. Moloney is a strong supporter of the Cornelian Corner movement, and his booklet is a vigorous battle-cry for the realization of its principles, i.e. rooming-in, breast feeding, permissive child-rearing and related matters. In his enthusiasm the author's views

appear to have become somewhat slanted; it is difficult to believe that mental illness should be almost exclusively due to our present-day allegedly regimented obstetric, pediatric and child-rearing methods. Also "the great triumvirate"—hospital management, obstetrician and maternity nurse—does not appear quite so vicious that the newborn has to be liberated from the "clutches of these machines—masquerading-as-human-beings—" before they catapult him into "character rigidity, psychosomatic disease or even madness."

The author advocates a new type of separate maternity facilities that does not have the bad connotations of a general hospital. He forcefully calls for the re-introduction of the closest personal relationships between mother and baby, an appeal that seems to find ever more widening recognition in the practices of today. The booklet should be interesting reading to obstetricians, pediatricians, hospital managers, social workers and everyone interested in human relations.—*F. S. Katzmman*, M.D.

AMERICAN MEDICAL ASSOCIATION STANDARD NOMENCLATURE OF DISEASES AND OPERATIONS, Fourth Edition, edited by *Richard J. Plunkett*, M.D. and *Adline C. Hayden*, R.R.L. (The Blakiston Co., Philadelphia, \$8.00).

This book is designed primarily to properly and categorically classify diseases in a systematic and definite manner in order to avoid overlapping and to permit a standard classification which will be national in scope. By this numerical and proper terminology, accurate indexing and cross filing systems can be established for accurate recording and for future statistical purposes.

Every disease which is clinically recognizable is recorded in English terms in good usage wherever possible and is classified on the basis of two elements. These are topography and etiology. The portion of the body concerned is represented by the first three digits separated by a hyphen for the next three digits which represent the cause of the disease or disorder.

The topographic digitations are broken down according to the various systems or portions of the body. The etiologic factors are separated into 13 major classifications.

Several sections of this book have been recently revised, particularly those dealing with the psychiatric and tumor sections. Also the section on "Diseases of the Hemic and Lymphatic Systems." There is also a section dealing with the classification and nomenclature of operations. It, too, is recorded by the two digit system.

The national adoption of this complete, accurate and concise method of standard nomenclature of diseases and operations as noted in this edition would be a positive step forward in establishing a comprehensive utilitarian system of classification and filing of all diseases, injuries and operation.—*L. T. Palumbo*, M.D.

SOCIETY PROCEEDINGS

MEETINGS

Blackhawk

The regular meeting of the Blackhawk County Medical Society was held March 18 at the Elks Club in Waterloo. Dr. James T. Priestly, Head of the Surgical Section of the Mayo Clinic, spoke on "Recent Advancements in Diagnosis and Treatment of Adrenal Disorders."

Iowa

Members of the Iowa County Medical Society met at Bill Zuber's Dugout April 2 for their regular meeting. Dr. George H. Scanlon of Iowa City, discussed the "Acute Abdomen."

Polk

The Polk County Medical Society met April 16 at the Hotel Savery in Des Moines. Dr. Carroll B. Larson, Professor and Head of Orthopedic Surgery at the SUI College of Medicine, spoke on "The Problem of the Painful Shoulder."

Washington

The Washington County Medical Society held its regular meeting on March 27 as part of the institute on the Care of the Newborn, held by nurses from various hospitals in the southeastern part of the State. Following dinner, Dr. John H. Randall, of the Department of Obstetrics and Gynecology of the SUI College of Medicine, discussed "The Influence of Prenatal and Delivery Care on the Health of the Newborn."

Woodbury

The regular meeting of the Woodbury County Medical Society was held March 20 at the Mayfair Hotel in Sioux City. Dr. Sidney E. Ziffren, of the Department of Surgery of the SUI College of Medicine, spoke on "Treatment of Burns."

Wapello

Dr. Wilson C. Wolfe, Ottumwa, was recently elected 1952 President of the Wapello County Medical Society. Dr. Dennis G. Emanuel, Ottumwa, was re-elected vice-president and Dr. Edward B. Hoeven, also of Ottumwa, was re-elected Secretary.

PERSONALS

Dr. Fred F. Agnew, Independence, was recently honored by the Buchanan County Medical Society upon the completion of 50 years of medical practice in Independence.

Dr. Alfred Brendel will begin the practice of medicine in Central City the latter part of

July. A recent graduate of the SUI College of Medicine, Dr. Brendel is interning at the Polk County Broadlawns Hospital in Des Moines.

Dr. Frank D. Donahue, formerly of Sac City, has begun the practice of medicine in Omaha. Specializing in the practice of general surgery, Dr. Donahue has joined the faculty of Creighton Medical School in the Department of Surgery.

Dr. Henry H. Gurau has moved his offices to 323 Bankers Trust Building in Des Moines for the practice of Otolaryngology and Ophthalmology. It was incorrectly stated in the April issue that Dr. Gurau's office was located at 213 Bankers Trust Building.

Dr. McMicken Hanchett, Council Bluffs physician for 29 years, recently retired from the practice of medicine.

Dr. Louis N. Hungerford, Jr., doctor and surgeon in Keosauqua for three years, will leave in June to specialize in Ophthalmology at the University of Indiana Medical Center in Indianapolis.

Dr. J. Stuart McQuiston, Cedar Rapids, was recently elected president of the Iowa Clinical Medical Society. **Dr. Eugene B. Floersch**, Council Bluffs, was named vice president and **Dr. Leslie W. Swanson**, Mason City, was re-elected secretary-treasurer.

Dr. Emma J. Neal was recently honored by the Linn County Medical Society for 50 years of medical service to Cedar Rapids.

Dr. Robert W. Robb has resigned as assistant superintendent at the State Hospital in Independence as of April 1. After an extended vacation, he will join the staff of a private hospital at Corvallis, Ore.

Dr. Pierre Sartor was recently honored by the Titonka Community Club upon the completion of 56 years of medical practice.

Dr. Allen C. Starry spoke on "Cancer Control" at a recent meeting of the Sioux City Lion's Club.

DEATH NOTICES

Dr. Frank T. Launder, 83, former Garwin physician for nearly 40 years, died March 10 at his home in San Diego, Calif. following a heart attack. Born in Orient, Dr. Launder was graduated from the State University of Iowa College of Medicine in 1901. At the time of his death, Dr. Launder was a life member of the Tama County and Iowa State Medical Societies.

Dr. James Daniel Simons, 66, Leon ear, eye, nose and throat specialist, died at his home on March 10 from a heart ailment. Dr. Simons was graduated from the State University of Iowa College of Medicine in 1910. He was a member of the Decatur County and Iowa State Medical Societies.

Dr. Pearl Ellsworth Somers, 81, former Grinnell physician, died March 28 in Tullahoma, Tenn. following a stroke. Dr. Somers was graduated from the Rush Medical College, Chicago, in 1897. At the time of his death he was a life member of the Poweshiek County and Iowa State Medical Societies.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of April 10, 1952

Ackerman, J. H., Clarksville
(Melbourne, Fla.) Asst. Surg., U.S.P.H.S.
Alberts, M. E., Des Moines
(Seattle, Wash.) Lt., U.S.N.R.
Ashby, J. D., Davenport
(Battle Creek, Mich.) Major, A.U.S.
Bartholomew, R. D., Lake City
(Walnut Creek, Calif.) Lt. (j.g.), U.S.N.R.
Bartley, R. L., Sully
(FPO San Francisco, Calif.) Lt., U.S.N.R.
Benge, D. K., Dows
(APO San Francisco, Calif.) 1st Lt., U.S.A.
Braatelen, N. T., Des Moines
(Camp Carson, Colo.) 1st Lt., U.S.A.F.
Brown, R. C., Mason City
(Kansas City, Kan.) 1st Lt., A.U.S.
Camp, J. R., Thompson
(FPO San Francisco, Calif.) Lt., U.S.N.R.
Carson, R. W., Winterset
(APO San Francisco, Calif.) 1st Lt., A.U.S.
Coyne, K. M., Burlington
(FPO San Francisco, Calif.) Cmdr., U.S.N.R.
Dalager, R. D., Ottumwa
(Annapolis, Md.) U.S.N.R.
Davidson, M. C., Emmetsburg
(APO New York, N. Y.) Col., A.U.S.
Davis, S. K., Des Moines
(Seattle, Wash.)
Donahoe, J. F., Fort Dodge
(Camp Atterbury, Ind.) 1st Lt., U.S.A.F.
Fitch, R. E., Des Moines
(Bangor, Me.) 1st Lt., U.S.A.F.
From, Paul, West Des Moines
(San Antonio, Texas) 1st Lt., U.S.A.F.
Gladstone, W. S., Jr., Iowa City
(Crestview, Fla.) U.S.A.F.
Greco, D. J., Des Moines
(APO San Francisco, Calif.) 1st Lt., A.U.S.
Gustafson, J. E., Des Moines
(Far East Command) 1st Lt., A.U.S.
Jensen, K. V., Newton
(San Antonio, Texas) 1st Lt., U.S.A.F.
Johnson, A. A., Jr., Council Bluffs
(Fort Worth, Texas) 1st Lt., U.S.A.F.
Johnson, F. N., Madrid
(San Antonio, Texas) 1st Lt., U.S.A.F.
Johnson, M. H., Iowa City
(Tacoma, Wash.) Capt., A.U.S.
Johnstone, A. A., Keokuk Col., U.S.A.F.
Keil, P. G., Des Moines
(Bangor, Me.) Major, U.S.A.F.

King, R. E., Des Moines
(APO San Francisco, Calif.) Capt. A.U.S.
Krause, R. E., Ottumwa
(Camp Atterbury, Ind.) 1st Lt., A.U.S.
Kruse, R. H., Conrad
(Pearl Harbor, T. H.) Lt., U.S.N.R.
Kurth, R. J., Waterloo
(Panama City, Fla.) Capt., U.S.A.F.
Landis, S. N., Des Moines
(Shreveport, La.) Major, U.S.A.F.
Leiter, E. R. K., Des Moines
(Bangor, Me.) Capt., U.S.A.F.
McCrary, W. A., Lake City
(APO San Francisco, Calif.) Capt., A.U.S.
Mangan, J. T., Forest City
(San Diego, Calif.) Lt. (j.g.), U.S.N.R.
Merkel, B. M., Des Moines
(Bangor, Me.) Col., U.S.A.F.
Mitchell, R. C., Iowa City
(Yorktown, Va.) Lt., U.S.N.R.
Montgomery, A. E., Jefferson
(APO San Francisco, Calif.) Lt. Col., A.U.S.
Mulder, L., Sioux Center
(Sioux Falls, S. D.) Capt., U.S.A.F.
Neagle, P. E., Dubuque
(APO San Francisco, Calif.) 1st Lt., A.U.S.
Nicholson, R. W., Paton
(APO Seattle, Wash.) 1st Lt., A.U.S.
Nordin, C. A., Des Moines
(Lackland Field, Texas) 1st Lt., U.S.A.F.
Odell, J. E., Iowa City
(Seattle, Wash.) Lt., U.S.N.
Piburn, M. F., Preston 1st Lt., A.U.S.
Ruble, R. L., Nevada
(Camp Chaffee, Ark.) A.U.S.
Saunders, R. J., (Colfax)
(Montgomery, Ala.) 1st Lt., U.S.A.F.
Schultz, M. H., Waterloo
(Weaver, S.D.) Capt., U.S.A.F.
Shaffer, F. J., Iowa City Col., U.S.A.F.
Simonsen, M. N., Sioux City
(Oakland, Calif.) Lt. Cmdr., U.S.N.R.
Smith, C. B., Iowa City
(Fort Jackson, S. C.) Capt., A.U.S.
Stutsman, R. E., Washington
(San Diego, Calif.) Cmdr., U.S.N.
Tempel, P. F., Steamboat Rock
(APO San Francisco, Calif.) Capt., A.U.S.
Thistlewaite, E. A., Des Moines
(Riverside, Calif.) 1st Lt., U.S.A.F.
Thomas, J. H., Rock Rapids
(APO San Francisco, Calif.) Capt., U.S.A.F.
Tice, W. K., Iowa City
(Kansas City, Kan.) 1st Lt., A.U.S.
Tyler, D. E., Shenandoah
(Great Lakes, Ill.) U.S.N.R.
Vincent, J. F., Fort Dodge
(Langley A.F.B., Va.) Capt., U.S.A.F.
von Lackum, L. S., Oelwein
(Great Lakes, Ill.) Lt., U.S.N.R.
Waldmann, E. B., Council Bluffs
(Santa Ana, Calif.) Lt., U.S.N.R.
Walz, D. V., Le Mars
(Sioux Falls, S. D.) 1st Lt., U.S.A.F.
Wehrmacher, W. H., Iowa City
(Oceanside, Calif.) U.S.N.R.
Wiedemeier, J. L., Sioux City
(Ft. Sam Houston, Texas) 1st Lt., A.U.S.
*Wilkins, D. S., Iowa City
(APO San Francisco, Calif.) Capt., A.U.S.
Witte, H. S., Marathon
(San Francisco, Calif.) Lt. Col., A.U.S.
Woolfolk, J. H., II, Waterloo
(Weaver, S. D.) U.S.A.F.
Zeilenga, R. H., Orange City
(Madison, Wisc.) 1st Lt., U.S.A.F.

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, JUNE, 1952

No. 6

PRESIDENT'S ADDRESS

DONALD C. CONZETT, M.D.
DUBUQUE

Changes in procedure are oftentimes slow to mature; actual achievements frequently difficult to measure. However, one distinct innovation has occurred in the 25 years in which I have been active in medical affairs in the State Society. It is the annual address of the President. Formerly a "white tie and tails" oration delivered with all the attendant pomp and ceremony at the annual banquet, it has now rightfully been placed as a short factual report of stewardship before the general assembly. This welcome change, to both you and me, bespeaks progress in the functioning of our organization.

A year ago, in the President-elect's address, two points were emphasized as being goals of effort. First, the tendency for us as physicians to have veered away from the age-old patient-physician relationship. This is a situation which cannot be countered by legislation, nor can it be completely altered by formal schooling. Too many of the current trends in present day living have made this Hippocratic principle untenable. Increasing governmental inroads into medical practice have divorced the physician from the intimate confidence of his patient. The control of medicine by hospitals has certainly disrupted the private communication between doctor and the individual. The physician finds himself constantly enmeshed in a union wherein a third party is injected; and all too often that third party is an insurance company. Conscious of the many values of these organizations, nevertheless we medical men are finding it harder, day by day, properly to maintain a relationship of trusted confidant with our patient, and thereby a tremendous disadvantage occurs in his proper care. We cannot hope to correct these deviations from original concepts in a year, nor in a decade. However, we can, by constant reminders to ourselves and by precept to the neophyte physicians, bring about a return of the individualiza-

(Continued on page 246)

Presented at the 1952 Annual Meeting, Iowa State Medical Society, Des Moines, April 27-30, 1952.

PRESIDENT-ELECT'S ADDRESS

BEN T. WHITAKER, M.D.
BOONE

The Declaration of Independence contains 300 words,

The Ten Commandments contain 297 words,
Lincoln's Gettysburg Address contains 266 words,
The Lord's Prayer contains 56 words,

The two Commandments that comprise the whole law of God contain 23 words,

But the O.P.S. order setting the price of cabbage contains 26,911 words.

Reprinted from the *Corn Belt Lamb Feeder*

The heading of the above quotation from the *Corn Belt Lamb Feeder* is entitled "Words."

I trust, in what I have to say this morning, I shall not fall into the cabbage category. However, apart from the ludicrous side, it shows the confused, unnatural conditions existing today, of which unwillingly, we have become a part.

Were I able to do so, I should not attempt to make an inspirational talk concerning the many problems facing organized medicine. You are all well aware and informed of the dangers facing the medical profession. I prefer to visit with you for a few moments this morning and discuss some practical matters concerning the Iowa State Medical Society.

I realize that much I say was presented at the House of Delegates Sunday night. Yet I feel some points deserve repetition to the entire membership at this general meeting.

Three years ago, Dr. Walter Sternberg, then Chairman of the Board of Trustees, made almost a classic statement, saying the Iowa State Medical Society was becoming a big business, and how true that was; in fact we have become a big business, large in our various activities and large in the budget required to operate them.

I feel to many of you, some questions arise. Why has the Society expanded so much? Why do our dues need to be \$50.00 a year, and why is it neces-

(Continued on page 246)

Presented at the 1952 Annual Meeting, Iowa State Medical Society, Des Moines, April 27-30, 1952.

PRESIDENT'S ADDRESS

(Continued from page 245)

tion of the patient. This one factor will be one of the greatest antagonists to socialization that could possibly eventuate.

Can you imagine John Jones, who has consulted you about the problems of his pre-marital affairs; later called you regarding the frequent difficulties of his children; and still later, questioned you concerning his own increasing physical happenings, being content to accept the medical services, competent though they might be, of the assigned, but unknown physician in his district? The continued effort of every physician to know and interest himself in every patient will pay off bountifully, specifically to the doctor himself, and generally to the profession at large. It will be productive of good will to thousands—probably millions of people.

Our second thesis was actually a corollary of the first, and happily, we can report a successful beginning. It is the program of preceptorship for the junior students in the State University Medical School. Your President takes no credit for this. It has been the combined work of the Council of the Society, the splendid efforts of the Academy of General Practice, and above all, the cooperation of the Executive or Dean's Committee of the School. The program is to begin this summer; true, not on a 100 per cent participation of the students, but in a small way wherein we may judge its efficacy. There are many problems involved which will require revamping of the system in the years ahead. There will be cases of dissatisfaction from both student and physician. May I caution you, however, to be charitable and not to judge the entire program by the occasional and inevitable failure, but rather to carefully evaluate the reason for such failure should a case come under your surveillance. So often, a new and experimental venture is damned to failure because of destructive criticism when success might have eventuated had there been constructive evaluation of the involved errors. I hope, with intense sincerity, that the participants will find this program to be of mutual value.

A third problem, to which your officers have devoted much time and thought, has been concerned with securing a dean for the Medical School. I had hoped that we might have been able to report success at the time of this meeting. However, I can state, with certainty, that today a much closer and more friendly relationship exists between the School and the profession in the state than has pertained in many years. Whether you are a graduate of Iowa or not, that school is yours by adoption if not by graduation, because you and I live in this state and we want our Medical School to be second to none. I believe that with a little more effort the situation will be solved to the happiness of all, and our continued support will pay big dividends for we will have more com-

petent doctors of medicine to take our places when time decrees that we retire, and the improved school will add to our individual knowledge through the upswing of postgraduate study which will emanate from an interested and cooperative faculty. I know that again we will be proud to boast of our Medical School at the State University of Iowa.

One could not possibly serve as President of this Society with any degree of success without help and this year I have been mightily blessed by the cooperation of those who have worked with me. Foremost among those whom I publicly thank is my successor, Ben Whitaker, who contains within his white-thatched head, the combined wisdom of such predecessors as O. J. Fay, Fred Moore and F. P. McNamara, to name only a few of the former "greats" of our Society. You are to be congratulated on having the destiny of the organization in his capable hands this coming year. My Sectional Chairmen are currently proving their worth in the program in which you are now participating. The Council, those outwardly suave and saintly souls, have done a magnificent job of direction and decision, and then later dissemination of fact to their respective districts. Orchids, a plenty, to that tireless group of three, the "flinty-eyed" Trustees who have so well guarded your finances this year. Sunday after Sunday, they have met in all day session to thrash out problems in your interest. The various committees, notably the Medical Service Committee, the other 20, too many to mention by name, have all contributed freely and cheerfully of their time and talents and to each and every member thereof my deep gratitude. Our office force, from Doctor Bernard down or up, as he sees fit to place himself, has been at constant call and, though salaried employees, have shown the same enthusiasm in working many extra hours as have physicians in the regular practice of their profession. To them, collectively and individually, my thanks.

Unlike General MacArthur, I dislike to quietly slip away as I leave this office. Rather, I would again like to rejoin the ranks and be happy to serve in any small way that I can in furthering the cause of American medicine—the greatest profession in the greatest country in the world.

PRESIDENT-ELECT'S ADDRESS

(Continued from page 245)

sary to build an office building here in Des Moines? These are natural questions and they deserve an honest answer.

As to the office building, I believe the Trustees fully explained the matter to the House of Delegates, and if you heard the report, I am sure you will understand their action. I assure you this was not a hasty decision; the matter of more office space has been carefully studied for the past three years. This year our lease was up and we were

to be forced to pay \$500.00 a month rent for inadequate space. The Trustees decided, instead, to build a building of our own. With a rent figure of \$6,000 a year, this building can be amortized easily and we will own a valuable piece of property with adequate parking space and with an overhead of only taxes and upkeep. I am sure the Trustees used good business judgment.

The other day I compared the 1948 Handbook for the House of Delegates with the 1952 Book. I believe this comparison shows clearly what has happened in our organization. In 1948 we were a complacent, self-satisfied group, operating on a budget of \$25,000.00. We had no vital problems facing us. We had standing committees, but only about two of them had a meeting. Contrast that with the 1952 Handbook showing a budget of \$125,000.00, over 20 active committees, several meeting monthly, an active Council with four meetings and three meetings of the Executive Council. Public relations work was not thought of six years ago and now it plays a large part.

Now to return to my original question—Why the expansion? We have primarily only one reason; viz, the socialistic policies of the present administration in Washington. When the President introduced his socialized medicine program, organized medicine was put on the defensive at once. The theory that the best defense is a good offense was adopted, the result being the creation of a vigorous Public Relations program. This was expensive, causing rapid expansion of office personnel, replacing obsolete equipment, heavy printing and postal bills, etc. It was soon found no President or Trustee could devote sufficient time to supervise the work, so the House authorized the employment of a full time executive. Indirect influence of this socialistic program has been felt in our sponsoring Blue Shield and in our relationship with other professional and lay groups. Our advise has been sought by the State Board of Education and the State Board of Control, showing the influence of our organization.

Why the dues need to be \$50.00—I believe if you will each just take the time to examine the Society exhibit you will understand. It has been necessary to finance what I have been talking about, plus a Speakers Bureau and an expensive *Journal*. I realize the magnitude of our activities will appal you, they do me, but large as they are, we are still behind our neighboring states in many respects. Probably we have reached our peak and things can level off. However, with all these activities the increase in dues would have been moderate, were it not for Oscar Ewing and his program. The large increase in both AMA and State Society dues has been the direct result of our fight to preserve free medicine, but if we succeed, this money will be well invested, not only for ourselves but for our country.

And now what is ahead of us the coming year? This will be a busy one and an important one for us all.

In June, we have a red hot primary coming up. In November, what many consider the most important election in our country's history and next winter a legislative session. The Iowa State Medical Society is a non-partisan, non-political group, but we as *members* are entitled to and have a duty to participate in these activities. Just think of the influence of the 2500 members of the Iowa State Medical Society if each one will just contribute a few moments each day, as he contacts his patients, in discussing the issues. That would be a lobby no money could buy. Let us not be embarrassed as several localities were, when the AMA made spot checks to see how many doctors voted four years ago. I promise you the membership will be kept well informed of any information the Legislative Committee develops.

There is another of our activities I wish to speak of, viz, the Rural Health Program. Iowa is woefully behind most of the other State Societies in this matter. Part of the propaganda the union publications use is that the medical profession is not really concerned with the health of the community, but is only interested in the financial income. This is a matter the farm organizations are vitally interested in and it is a certainty that unless we adopt more interest in the matter, the State Board of Health will take over the program, which they incidentally are anxious to do.

At Denver last month, the AMA called a National Conference with the top brass of both the AMA and Farm Bureau there. Our Committee, with Dr. Joseph Fellows of Ames as chairman, is working hard outlining the best procedure in Iowa. I plead for your cooperation when he presents this to you during the year. It has many important ramifications.

There is just one other matter I want to bring briefly to your attention. In Iowa last year, the industrial income almost approximated the agricultural income.

These surprising figures offer another challenge to us and shows the necessity for developing our committees on industrial health. Again we are far behind other states in this work. The AMA is now offering leadership by means of conferences and assistance. Our own committees will conduct a survey in Iowa this coming year and I again ask your cooperation in order that we can keep this program in our own hands and furnish constructive service to the people of Iowa engaged in industry.

In conclusion I want to promise you no attempt will be made this year to start any new activities. We have enough if they are carried out. It is true though that with an organization as strong as ours is, demands are constantly being made upon us, but your officers will carefully try to sift out the unimportant and not get the Society involved in controversial matters.

Yes, it will be a busy year, but we have a strong staff. I need not say anything of Mary McCord. You all know the excellent work she has done

over the years. Dr. Bernard has fitted into the organization in a wonderful way. No one except those of us around the central office realize the tremendous amount of detail work he is doing in coordinating with activities of the Council and committees, and the constant demand on his time for conferences with both professional and lay groups, not to mention the television program he supervises. On Don Taylor, I know we are in perfect agreement on the wonderful job of public relations he is doing.

I also want to pay tribute to the conscientious and thorough work of the Councilors. They come in from long distances over the state, sacrificing a great deal of time and energy for us, and I know if you could see the serious thought given to the problems that come before them, you would feel the Society's affairs are in good hands. The same can be said of the various committees, and they are the ones who investigate and develop what later becomes our policies; and I assure you the staff, your officers and committees will work hard this year to create an active, unified and efficient organization, but we cannot do it all alone. Will you all help? I feel sure you will.

THE CARE OF BURNS

MICHAEL L. MASON, M.D.
CHICAGO, ILL.

It has been estimated that between eight and nine thousand people die of burns in the United States during one year. What that represents as to the actual number of burns, *i.e.*, serious burns, it is difficult to say. The eight or nine thousand deaths are, of course, among those who were seriously burned. If that represents five per cent of the serious burns it means that the problem is a tremendous one in this country.

During the past 15 to 20 years there has been a great revolution in the method of burn care. The day of surface applicants, of salves and ointments, tannic acid, silver nitrate, the application of sulfonamides or any other surface antiseptic seems to be past. Very few surgeons any more apply anything in the way of a salve to the surface of a burn with the idea that that salve is going to help the burn. The care of burns has become considerably simplified, until in the past few years there has even been a tendency to return to the old treatment of open care of burns. The fate of the burned skin depends initially upon the degree of injury that the skin suffered at the start. There is nothing that anybody can do that will make dead skin come to life but there is a lot that one can do to make live skin become dead. Infection and chemical trauma will convert devitalized skin into dead skin. This consideration has had a great deal to do with the discontinuance of the use of various sur-

face irritants with the idea that they will sterilize the surface, save skin that is not dead or make skin grow where there are no viable skin cells.

The great interest in the care of burns today is evidenced by the tremendous amount of investigative study that has been directed toward it. The work of the National Research Council on burns has been stimulated by the anticipation of mass casualties from burns in atom bombing. Efforts are directed toward simplification in the care of burns, methods that can be applied in mass casualties, simplification not only of the local management of the burn but of the general management of burns as well. Many times it seems to me that instead of making the problem more simple the problem has been made more complex. The general care has become extremely complex. The study of each blood element and the fate of each blood element, of the proteins, of the various electrolytes and now the mode of action of ACTH and cortisone have complicated the general management of burns way beyond what I, at least, can understand of it.

The general care of the burn applies mainly or almost entirely to that of the serious burn. The small burn presents no problem in general care. There have been proposed many formulas for determining the amount of blood, plasma and electrolytes which should be given to the individual burned patient; and except for the fact that these formulas show that large amounts are often needed, the surgeon must still rely largely on the clinical picture.

There is a search today for agents which can be used to bring up and maintain the blood volume. The plasma extenders such as dextran or PVP have been introduced to save on the amount of blood and plasma which mass casualties would demand. However, those who have introduced and are using these substances admit that they do not, in fact, replace blood, that they are simply replacement measures that can be used as an immediate emergency measure or stop-gap until blood can be secured. The seriously burned patient will eventually require blood for which we still have no substitute.

Search is being made for substances that will remove the burn slough more rapidly. Earlier studies were made with pyruvic acid. Harvey and his group studied the use of pyruvic acid in digesting off or at least separating burn slough. The search has gone over into the various enzymes, streptokinase, streptodornase, and Altemeier is now studying the enzymes of certain anaerobic organisms and their action in removing burn slough. The aim of these studies is to facilitate and speed up the removal of dead tissue so that the burn can be covered more quickly with skin grafts.

These, as I see it, are the general trends in the study of burn care today. The studies are extremely stimulating and there is no doubt but that from them great advances in burn care may be antici-

pated. Many of the ideas are applicable only to research institutions where carefully controlled studies may be carried out. I am going to talk tonight mainly on a simplified care which we have found to be practical and which seems to fulfill the indications for the care of burns. That does not mean that we are entirely satisfied with burn care, that if we can find some improved way of meeting the problems so much the better; but I would like to talk about the care that up to now has worked out well in our hands.

We look upon a burn simply as a large open wound and as a break in the surface of the skin. The indications for treatment in that wound, as in any other wound, are to close it as quickly as possible. That, in brief, is the whole theme of my talk.

As this burn increases in size and to some extent as it increases in depth, it is accompanied by certain general physiologic changes, largely due to the loss of fluid into the burned area and into other parts of the body. If this loss of fluid becomes sufficiently great physiologic disturbances develop and these we know as burn shock. After the initial stage of shock is over other physiologic changes develop, characterized by profound nutritional disturbances and evidenced by protein loss and secondary anemia.

The care of the burn can be divided into two phases: the first is the early care of the burn as seen immediately or within a few hours after it has been received; and second, the care of the burn several days, a week or ten days later. In each of those phases of the burn we have two things to think about: first, the local care of the burned area, and second, the general care of the patient. The local treatment in the first phase of care of the burn is to get it clean and to cover it; and in the second phase we must remove the slough and cover the raw surface with skin. In the initial phase the general care is directed toward re-establishing and maintaining the blood volume. In the second phase the general care is directed toward re-establishing nutrition and combating the secondary anemia so as to favor healing.

The care of the burn is logically the care of an open wound. Occasionally it is possible in a very circumscribed and small burn to carry out primary excision, which would be, of course, the ideal treatment of a burn—to excise it and place a skin graft immediately on the area of excision. However, there are several considerations that militate against that ideal treatment of a burn. One is that we may do it only with a small burn because with a larger burn the patient is liable to be in shock or to go into shock and if we add to the burn the shock of anesthesia, and the shock of further loss of blood from the removal of skin grafts, the patient could quite probably not withstand it. In the second place it is very difficult to determine at the time the burn is initially seen the exact extent

of the burn. I cannot tell and I think very few people can tell what the extent of the burn is when it is first seen; not only its extent but its depth is very difficult to predict exactly.

If we look upon a burn as an open wound we would simply cleanse it with soap and water, rather quickly remove what dead tags we can, snip off the surface of the blisters and apply a large protective compression dressing.

It has been stated by some that this cleansing has to be done under an anesthetic; but I can assure you there is no need for an anesthetic even with children. Our group has had a great deal of experience with children and we have found that it is seldom necessary to do more than to give these children a small dose of a barbiturate by rectum. The cleaning is not painful; the children may cry from fright but they do not cry from pain. The same applies to an adult. One can take the largest of burns in an adult and in a warm room under aseptic precautions cleanse the burn with warm water and soap, with little or no sedative.

Something should be said about the application of a firm resilient pressure dressing. I have seen, and I am sure that you have all seen, pressure dressings that are simply tight dressings. The introduction of the elastic bandage has been a tremendous boon to wound surgery. However, too often the pressure bandage alone is looked upon as the whole source of the compression. The dressing must not be put on tightly. It should not cause wrinkles, creases or lead to constriction but must apply an even pressure. It requires a large amount of dressings beneath it, so that we get a firm resilient pressure rather than a tight dressing. Before the last war and before we became so extravagant as to use woven elastic bandages with profligacy, we used ordinary cotton bandages for applying the pressure dressing. The secret is the large amount of resilient material beneath it. Directly on the surface of the burn itself we apply a fine mesh gauze which has a small amount of petrolatum in it and it is almost dry. Most petrolatum gauze is much too greasy and favors maceration. We have had made up large dressings a little thicker than the ordinary abdominal pad but on the same order as the abdominal pad. These dressings are made up in several sizes to cover the trunk, the buttocks and the extremities. A big blanket-like dressing may be laid under the patient if the burn involves the trunk. That makes it possible to apply a pressure dressing in almost as short a time as one can apply a band-aid.

The initial dressing is left on for from five to ten days, except in the case of burns of the face. It can be removed from the face in three or four days and does not ordinarily need to be re-applied.

Elsewhere the compression dressing is left on for a period of five to ten days. It is taken down to the area of the grease gauze and one can tell by looking through the grease gauze whether the

surface is healed or is not healed, whether or not there is a third degree burn. If the area is all healed the dressing is re-applied for another two or three days and the patient is well.

If the area is not healed the surgeon then plans his method of removing the slough as quickly as possible so as to cover the burned area with skin grafts. This slough can be removed in one of several different ways. If there is a very little slough present, only a few patches here and there, or if the slough seems to be not too deep, and to be easily separable, the dressings may be changed daily or possibly every other day for a few times. The slough may be removed by natural processes assisted by Dakin solution, and the area ready for grafting in a week to ten days. We may use one of the solvents or digestants to hasten separation of the slough. Applications of pyruvic acid to the surface every other day will separate the slough rather quickly. However, it is a rather painful procedure, and the patients do not particularly like it. The third method of attack on the burned surface is that of actual excision of the burn slough. Surgical excision is particularly applicable to large or extensive burns where it would take an unconscionable period of time for the burn slough to be removed by dressings or by snipping it off gradually every day. The decision as to method of slough removal is made at the time of the initial dressing on the fifth to the tenth day. If the decision is made to excise, the patient is taken to the operating room on the day or two following the initial dressing, or possibly at the time of that dressing; he is anesthetized and the area of the slough is removed with a sharp knife and a second pressure dressing applied. It is usually not feasible except in the case of burns of the hand to lay on a skin graft at the time of excision. Bleeding from the excised surface is too brisk. A few days later, however, the surface will be dry and the patient is taken back to the operating room, skin grafts are removed from whatever donor sites are available and are laid over the raw surface left by excision.

It is not always possible to graft a large burn at one time. The burn may be so extensive that we may be able to graft only a half of it, or a third of it at once. The burn area to be grafted may not be so large but the possible donor areas may have been secondary burns and sufficient skin is not available to cover the whole burn at once. Under such circumstances we take off only as much slough as we think can be grafted at one time and then ten days later we graft the second area or occasionally even the third area.

In a few instances, as a matter of emergency, the burns can be covered with homografts and that, at one time, was thought to be the answer to many of these problems. Such grafts of course are never permanent and while some have been reported to have survived for as long as 11 months, in our experience they live only for a few weeks. Even if they do live for a few weeks they must still be

replaced by the patient's own skin. The surface which has to be grafted is covered with granular and adherent fibrous tissue which is difficult to remove. The problem of secondary grafting is made quite complicated. Although the homografts may be life saving measures, and we have used them, we prefer to get along without them if we can.

We have approached the general care of the burn in the initial stage, that is, with present or impending shock, largely from the standpoint of diminished blood volume. A burn of 10 per cent or over is likely to be associated with burn shock; if shock has not developed it is impending. Shock therapy is started at once in every patient in whom shock is present or anticipated. We prefer the use of plasma and blood in the proportion of approximately two parts of plasma to one part of blood. The patient is given plasma immediately and later receives the blood, since it is important to start fluids at once. Plasma is started practically at the time the patient is admitted to the hospital for treatment and he will be receiving blood or plasma or both at the time his burn is being cleansed. To check on the course of shock in the patient we have relied largely on the hemoglobin, hematocrit and the red cell count. After a transfusion has been administered we feel that the clinical examination of the patient is our most reliable guide. Is he thirsty, is he passing urine? His general condition is of extreme importance in determining whether or not he is receiving sufficient fluid. It is extremely valuable in all children and in most adults with serious burns to introduce a catheter into the bladder and to determine the amount of urine that is passed per hour. Ideally we would like to see approximately 50 ccm. per hour of urine passed. Where there has been a lung burn and the possibility of pulmonary edema developing, where there is some question of renal damage, if the patient is a cardiac, we may be content with a smaller quantity of urine, but we do want him to pass urine and while 50 ccm. is ideal, in some circumstances we will be content with as little as 25 ccm. per hour.

It is our practice to give very little in the way of electrolytes. The patient is permitted to eat at once, *i.e.*, as soon as he will eat, and it is surprising how many of them will eat right away. If they cannot eat they must obviously be supplied with fluids in another fashion. However, it has not been our impression that they ordinarily need a great deal of saline solution. We put a glass by their bedside and let them have about 200 ccs. of water every hour. If they vomit, obviously, we must replace electrolytes by intravenous electrolytes. Otherwise their fluid intake and mineral and salt intake is what they get from their diets. After about 36 to 48 hours the patient should begin to get rid of the fluids that have piled up at the site of their burn and elsewhere in the body. At this period of enuresis fluid intake is curtailed and at

this time certainly we would not anticipate giving anything in the way of electrolytes. Toxemia of burns to me is still a puzzling question. I expect that there is such a thing as burn toxemia, but I wonder if many of the burn toxemias are not actually water intoxication. We know that the burned patients retain salt in their tissues and that this salt must eventually be excreted at the end of the period of shock.

After the period of shock is over the seriously burned patient will require replacement therapy, but now it will be replacement of blood and proteins and vitamins lost or used up. The secondary anemia of a burn has its onset at the time of the burn and the early use of transfusion does much to minimize this troublesome feature of a serious burn. However, early transfusions are not enough. We must continue to give blood from time to time until the burn is healed. With an extensive burn 500 ccm. of blood every two to three days is advisable and is continued until the raw areas have been covered with skin. A real protein loss has occurred and continues to occur until a burn is healed. This loss must be combatted with a diet high in proteins and calories. A minimum should be 150 Gm. of protein daily and in some patients even more are required. Interval feedings with various of the protein hydrolysates available are usually necessary to insure an adequate caloric and protein intake. Vitamins too are rapidly depleted by a severe burn and large doses, especially of vitamin C are indicated.

All of this feeding and transfusion program, however, goes to nought unless a strongly aggressive position is taken relative to rapid covering over of third degree burned areas. As long as these areas remain open protein and red cell depletion and lowered red-cell production will continue. If allowed to persist long enough the healing powers of the tissues become so lowered that closure of the burn ulcers becomes extremely difficult. These two phases of the late care of burns go hand in hand and neither can be neglected without harmfully affecting the other.

The antibiotics have unquestionably been of the greatest value in helping to combat burn infection. They are not used routinely although probably few really serious burns are treated without the administration of penicillin. We have never felt that it was indicated to use these agents as a local application, but to administer them parenterally. Their effect is to assist in the control of spreading infection. The surface infection is favored by the presence of slough and secretions which are to be removed at the earliest moment.

In brief, my philosophy of burn care is to look upon the burn as an open wound, to cleanse it and to cover it; at the earliest possible moment to remove third degree slough and to cover the raw surface with skin. With the serious burn the patient will require re-establishment of the blood volume during the stage of shock, while later the

general nutrition and anemia must be given adequate consideration.

BIBLIOGRAPHY

1. Mason, M. L.: Treatment of burns with particular reference to local care. *Indust. Med.*, 18-2:59-63 (February) 1949.

2. Allen, H.; and Bell, J.: An efficient dressing for burns or other large wounds. *Quart. Bull. Northwestern Univ. M. School*, 25:1, Spring Quarter, 1951.

3. Allen, H. S.: Treatment of the burned wound based on experience of 1000 hospital patients. *Ann. Surg.*, 134:566-573 (October) 1951.

4. Koch, S. L.: Early treatment of burns. *Mil. Surgeon*, 110:116-118 (February) 1952.

THE PLACE OF VERSION AND EXTRACTION
IN PRESENT DAY OBSTETRICS

WILLIAM C. KEETTEL, M.D.

AND

FRANK W. CREALOCK, M.D.

IOWA CITY

INTERNAL PODALIC VERSION and extraction has been considered a valuable procedure in the management of certain obstetric complications and has in the past solved many complicated problems of labor and saved many maternal lives. However, there are certain dangers connected with this procedure such as rupture of the uterus and cervical tears, which has resulted all too frequently in maternal deaths. The fetal mortality has always been high, the principal causes of deaths being anoxia and intra-cranial hemorrhage. With the increased safety of abdominal delivery, even when performed late in labor, the indications for internal version and extraction have gradually disappeared. Hence, in many medical schools version and extraction is mentioned more from historical interest rather than for its practical value.

Many practitioners, however, are still using this method of delivery as a means of handling certain complications. Several recent graduates from the

TABLE I
INCIDENCE OF INTERNAL PODALIC VERSION

| YEARS | DELIVERIES | NUMBER PODALIC VERSIONS | PER CENT |
|-----------|------------|----------------------------|----------|
| 1926-1929 | 1033 | 10 | 0.9 |
| 1930-1934 | 3503 | 39 | 1.1 |
| 1935-1939 | 7200 | 70 | 1.0 |
| 1940-1944 | 6366 | 26 | 0.4 |
| 1945-1949 | 4597 | 7 | 0.1 |
| 1950-1951 | 2366 | 4 | 0.2 |
| Total | 25,065 | 156 | 0.6 |

Iowa University Medical School have stated that they would rather treat persistent occiput posterior by podalic version than by forceps rotation. Information obtained from birth and death certificates indicates that this method is still being used in the management of certain obstetric complications. In 1949, 13 per cent of the maternal deaths in Wisconsin were associated with podalic version; in

From the Department of Obstetrics and Gynecology, State University of Iowa.

Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

Iowa during the same year, four per cent. In order to evaluate our own results with this operative procedure and to justify our changing philosophy, this statistical review was undertaken.

Between July 1, 1926 and December 31, 1951, there have been 25,065 deliveries in the Department of Obstetrics and Gynecology of the State

TABLE II
INDICATIONS FOR INTERNAL VERSION
AND EXTRACTION

| | |
|------------------------------------|-----|
| Second Twin | 55 |
| Transverse Presentation | 42 |
| Placenta Previa and Voorhees Bag | 25 |
| Failure of Vaginal Delivery | 12 |
| Prolapsed Cord Alone | 8 |
| Compound Presentation | 8 |
| Placenta Previa | 2 |
| Abruptio Placenta and Voorhees Bag | 2 |
| Eclampsia | 1 |
| Uterine Inertia and Voorhees Bag | 1 |
| Total | 156 |

University of Iowa. Table I shows the incidence of podalic version by five year periods. Between the years 1926-1940 the incidence was one per cent, but since that time there has been a marked decrease in the number performed so that the incidence has been reduced to 0.1 per cent.

In this clinic, podalic version has been used chiefly in the management of complications in which spontaneous or forceps delivery seemed impossible. Elective versions were performed only on the second twin. Table II shows the indications in this clinic for version extraction which are the ones commonly mentioned in most standard textbooks of obstetrics. Until recently, the second twin was often delivered electively by version and extraction for resident training. In transverse presentations, attempts were made to convert the presentation either to a vertex or a breech by external version, but those that persisted were treated by podalic version. For many years, a large percentage of patients with placenta previa were treated by the Voorhees bag. If, after the bag was expelled the presenting part remained high and bleeding occurred, internal version was performed. In 12 cases of failure of vaginal delivery in which the cervix was completely dilated and the baby was still living, podalic version and extraction was employed.

Most of the patients, 81.2 per cent, in this series were multipara, which is in keeping with the complications encountered and only 17.8 per cent were primiparas. The majority of the patients were indigent, and all versions done on them were performed by the residents under the direct guidance of the senior staff. The procedure has never been favored by the senior staff in the management of complications in private patients and only one podalic version has been done on a private case since 1926.

The various presentations encountered are shown in Table III. One hundred podalic versions were performed on patients with a single preg-

nancy, 55 of these were abnormal presentations of which 45 were transverse. It was interesting to note the difficulty encountered in the diagnosis of a transverse presentation early in labor. In many of the charts, the first examination was recorded as an left occiput anterior presentation, the presenting part being so high that cervical dilation and the exact presentation could not be ascertained by rectal examination. In 70 per cent of these cases, the correct diagnosis was not made until late in labor or until an arm was palpable or visible. When there is doubt concerning the findings during abdominal palpation or rectal examination, a sterile pelvic examination should be done immediately. The dangers of infection are minimal when a sterile vaginal examination is done and the information obtained may be lifesaving.

Fifty-six patients had twins, in one instance the version was performed on the first twin because of a transverse presentation, the others were done on the second twin, 49 of these versions were elective and six were necessary because of an abnormal presentation.

The onset of labor in most instances was spontaneous but 22 or 14.2 per cent were electively induced. When one considers the large number of patients in whom labor was induced during the years covered by the survey, this does not represent a frequent complication, but it should remind us that patients must be carefully selected for induction and if labor does not ensue promptly, they must be carefully observed. Most of the com-

TABLE III
PRESENTATION

| | | | |
|-------------------------|-------|------|-----|
| <i>Single Pregnancy</i> | | | |
| Vertex | ..... |  | 45 |
| Transverse | ..... |  | 45 |
| Compound | ..... |  | 8 |
| Face | ..... |  | 1 |
| Brow | ..... |  | 1 |
| Total | ..... |  | 100 |
| <i>Twin Pregnancy</i> | | | |
| | 1ST | TWIN | 2ND |
| Vertex | ..... | 40 | 49 |
| Breech | ..... | 14 | 1 |
| Transverse | ..... | 1 | 4 |
| Compound | ..... | 1 | 2 |
| Total | ..... | 56 | 56 |

plications that developed following induction were in single pregnancies and were in the form of a transverse presentation with prolapse of the cord or arm.

The pregnancy complications most frequently encountered were multiparity, placenta previa, toxemia, premature separation and uterine inertia. The labor complications most frequently noted were prolapsed cord, postpartum hemorrhage, prolonged second stage and premature labor. Prolapsed cord occurred 32 times and was frequently seen in patients having placenta previa treated by the Voorhees bag, or in shoulder presentation,

because in both of these conditions the presenting part remained high and predisposed to premature rupture of the membranes. As would be expected, the incidence of postpartum hemorrhage was high, being 20.5 per cent which is seven times the general incidence for obstetric patients in this clinic. Deep ether anesthesia, severe lacerations and the prolonged labor and the pregnancy complications were all important factors contributing to this high incidence.

There were certain operative procedures that were performed prior to the version. In five instances there had been previous unsuccessful attempts at version either by the referring physician or by members of our own staff. The Voorhees bag was used to control bleeding in patients with incomplete placenta previa in 26 instances. There had been a failure of forceps delivery 12 times, and because the baby was still living, the operator felt that podalic version offered the best chance for the mother and the child. Most of the failed forceps were persistent occiput posteriors, but two were face presentations. The cause of the failure of forceps was difficult to ascertain in all instances as the position of the fetus was correctly determined, forceps were properly applied and the cervix was completely dilated. Some of these patients doubtless had a mid-pelvic contraction while others may have had a pathologic retraction ring.

The technic of podalic version used in this clinic was the same as described in any standard textbook of obstetrics. Deep ether anesthesia was preferred, but a few were performed under cyclopro-

pane, ethylene or caudal anesthesia. The ease of performing podalic version was directly related to the depth of anesthesia, and the degree of muscle relaxation. Twenty-eight per cent were considered moderately or very difficult to perform. There was one unsuccessful version in this series treated by cesarean hysterectomy. Complications of delivery were rather high; 28 per cent had some form of obstetric laceration. The most common tears were cervical, and occurred 30 times, but vaginal and complete perineal lacerations were also rather

frequent. There were four instances of uterine rupture, two being complete and two of the incomplete variety. There were no deaths in the group with uterine rupture but cesarean hysterectomy was required twice to control hemorrhage. Three of the ruptures were associated with a transverse presentation and one with a vertex in which

TABLE V
FETAL MORTALITY RELATED TO INDICATION
FOR VERSION

| | |
|----------------------------|-------|
| 1. Placenta Previa | 64.3% |
| 2. Transverse Presentation | 64.1% |
| 3. Failure of Forceps | 66.6% |
| 4. Compound Presentation | 37.5% |
| 5. Prolapsed Cord | 25.0% |

there was a failure of forceps. Three of the four babies lost, died of anoxia.

Puerperal morbidity was frequently encountered and 34 per cent had a fever lasting two or more days. Fever was usually due to endometritis but other causes were parametritis, peritonitis and mastitis.

There were five maternal deaths, a maternal mortality of 3.2 per cent, however, the majority of the deaths were related to the obstetric complications and in only one instance could the version and extraction be directly blamed.

CASE HISTORIES

1. R. S., 38-18234, Gravida 3, Para 2; Age: 23, 40 weeks gestation. Uncomplicated pregnancy, elective induction with rupture of the membranes. A long latent period followed. A transverse presentation was noted late in labor, prolapse of the cord occurred, with death of the child. An attempted version and extraction followed, but was unsuccessful due to a tetanic uterus. The patient developed a severe transfusion reaction. A cesarean hysterectomy was performed, this was followed later by complete wound disruption. Patient died on the seventh post-operative day of generalized peritonitis.

2. A. S., E-8626, Gravida 2, Para 0; Age: 23, 42 weeks gestation. Patient had rheumatic heart disease, class I. Prolonged labor occurred, together with a prolonged second stage. Fetus presented in R.O.P. position. Failure of forceps resulted, podalic version was done, with the delivery of a 4615 Gm. stillborn child. Postpartum hemorrhage followed. Deep cervical tears were present on examination. The patient had an uncomplicated hospital stay, left on the twelfth day, returned two days later with marked generalized peritonitis and died 48 hours later.

3. C. M., K-8921, Gravida 6, Para 5; Age: 38, 28 weeks gestation. Patient contracted labor pneumonia prior to delivery. A marginal placenta previa was encountered. Braxton-Hicks version was done with the delivery of an 1100 Gm. stillborn child. A postpartum hemorrhage ensued. The patient died on the fourth postpartum day of a pulmonary embolus.

TABLE IV
FETAL MORTALITY

| SINGLE PREGNANCY | NUMBER | PERCENTAGE |
|--|--------|------------|
| Living Child | 42 | 42.0 |
| Stillbirths | 39 | 39.0 |
| 1. Before Labor 1 | | |
| 2. During Labor 11 | | |
| 3. During Delivery 27 | | |
| Neonatal Deaths | 19 | 19.0 |
| Total | 100 | 100.0 |
| TOTAL FETAL MORTALITY | | |
| (Single Pregnancy) | | 58.0 |
| Multiple Pregnancy (2nd Twin) | | |
| Living Child | 53 | 94.5 |
| Stillbirths | 2 | 3.5 |
| Neonatal Deaths | 1 | 1.8 |
| Total | 56 | |
| TOTAL FETAL MORTALITY (2nd Twin) | | 5.3 |
| TOTAL FETAL MORTALITY OF ENTIRE SERIES | | 39.2 |

pane, ethylene or caudal anesthesia. The ease of performing podalic version was directly related to the depth of anesthesia, and the degree of muscle relaxation. Twenty-eight per cent were considered moderately or very difficult to perform. There was one unsuccessful version in this series treated by cesarean hysterectomy. Complications of delivery were rather high; 28 per cent had some form of obstetric laceration. The most common tears were cervical, and occurred 30 times, but vaginal and complete perineal lacerations were also rather

4. H. C., M-5040, Gravida 1, Para 0; Age: 20, 34 weeks gestation. This patient had hydramnios and eclampsia at the time of delivery. An internal podalic version was done on an anencephalic monster weighing 2180 Gm. The fetus died during labor. The patient died two days later of pneumonia and renal complications.

5. C. M., 40-10112, Gravida 7, Para 6; Age: 29, 40 weeks gestation. A marginal placenta previa was encountered. A Voorhees bag was used but did not control the bleeding. A podalic version was done through a 5-6 cm. dilated cervix. Death of 3000 Gm. fetus resulted. Profuse third stage bleeding occurred with profound shock. Manual removal of the placenta was done. No uterine rupture was detected. The uterus was packed. The patient was transfused. Death occurred two hours later. Permission for autopsy was not granted.

The fetal mortality was high, however, certain of the obstetric complications necessitating podalic version were a definite factor in many of these deaths. It is well to point out that 33 per cent of the babies in this series were premature and the majority of these were second twins.

The total fetal mortality (Table IV) for the entire group was 39.2 per cent, for the single pregnancy group 58.0 per cent, and for the second twin 5.3 per cent. The majority of the babies in the single pregnancies were stillborn, either dying during labor or delivery; 27 per cent died during the actual version and extraction. Twenty per cent were neonatal deaths. In the stillborn group anoxia was more commonly a cause of death than intracranial hemorrhage, but both together accounted for all the deaths except four. In the group that survived delivery, only to die neonatally during the first 24 hours, succumbed to the effects of intra-cranial hemorrhage; there were only four dying from other causes.

When version and extraction was performed on the second twin, there was considerable fetal risk. In our series there were three deaths, two stillborn, which occurred during the actual delivery and one neonatal caused by intra-cranial hemorrhage. Three babies had severe anoxia but recovered. When one considers a mortality of 5.3 per cent for the second twin and the fact that 45 per cent of the babies were premature, is not spontaneous delivery after rupture of the membranes the safest procedure, reserving version on the second twin with a transverse presentation?

Table V shows the fetal mortality as related to the indication for version and extraction; as would be expected, the fetal mortality was highest when placenta previa was a complication. However, in the group with a transverse presentation and in those in which failure of vaginal delivery was encountered, the fetal loss seems extremely high since 50 per cent of the babies succumbed either during the actual delivery or neonatally.

COMMENT

Before the days of the sulfonamides, antibiotics

and the liberal use of blood transfusions, the danger of puerperal infections was a real threat to the life of an obstetric patient. It was extremely hazardous to perform cesarean section in labor and the grossly or potentially infected patient had to be treated by cesarean hysterectomy if the abdominal approach was chosen. Thus, should obstetric complications arise during the course of labor, it was considered the best technic to deliver the patient vaginally even if this meant a traumatic delivery with possible death of the child. Thus, podalic version extraction offered a very valuable method of treating certain labor complications where spontaneous vaginal delivery was not possible. It was an accepted method of handling transverse presentation, impacted face and brow, compound presentation, prolapsed cord, placenta previa treated by Voorhees bag, failure of forceps, disproportion, persistent occiput posterior and uterine inertia. In order to learn the technic of this important operative procedure, it was considered justifiable to deliver the second twin by this means. There were even some physicians who delivered most of their patients by this procedure.

However, with the advent of specific therapy for combating infections, better anesthesia, liberal use of blood and improvements in operative technics, the dangers of infections have been so reduced that abdominal delivery can be performed with safety late in labor. The maternal mortality is certainly no higher if as high as after a traumatic vaginal delivery. In the future, one should exert every effort to improve fetal salvage by the elimination of traumatic vaginal deliveries.

Thus, in present day obstetrics, there would seem little place for version and extraction. The transverse presentation should be diagnosed early in labor, attempts should be made to convert it into a vertex or a breech, and if this is unsuccessful and the child is viable, cesarean section should be the accepted method of management. In recent years, 18 sections have been performed in this clinic for transverse presentations, and the uncorrected fetal mortality was 16.6 per cent as compared to 64.1 per cent of those when treated by version and extraction. Of the three babies lost in the section group, one was a neonatal death, the child weighing 1100 Gm., two were stillborn, one having died before the section was done and the other was showing signs of anoxia because of prolapse of the cord. The Voorhees bag should no longer be used in the treatment of placenta previa, the minor degrees should be treated by rupturing the membranes or by scalp traction and the more complete varieties are best treated by abdominal delivery. Failure of forceps no longer need be a dread to the obstetrician or an indication for traumatic vaginal delivery, for these babies can be safely delivered by extra-peritoneal or by low cervical cesarean section with proper antibiotic protection. When there is prolapse of the cord in vertex presentation, and the cervix is completely dilated, forceps delivery is indicated

when feasible, but if the cervix is incompletely dilated, deep Trendelenberg position with oxygen therapy while awaiting complete dilatation or in selected patients, cesarean section may be employed. The patients with uterine inertia should be carefully observed, protected by antibiotic therapy stimulated carefully by intravenous pitocin and where labor is protracted and the cervix remains incompletely dilated, they are best treated by some form of section. The second twin is best delivered spontaneously, either as a breech or vertex following artificial rupture of the membranes.

There remains then only two possible indications for internal version and extraction in present day obstetric practice. The first would be patients with prolapse cord in a vertex presentation where the cervix was completely dilated but the presenting part was so high that forceps could not safely be used. The second indication would be a second twin presenting as a transverse presentation.

SUMMARY

1. In the past, podalic version and extraction was a very valuable obstetric procedure.
2. It was used in one per cent of our deliveries prior to 1940.
3. The maternal dangers from version and extraction were those of uterine rupture, cervical tears, puerperal infection and postpartum hemorrhage.
4. When strict indications for version and extraction were adhered to the fetal mortality was high, being 39.2 per cent for the entire group. The fetal mortality for the single pregnancy was 58.0 per cent and for the twin pregnancy group 5.3 per cent.
5. There are two present day indications for version and extraction; one is prolapse of the cord in a vertex presentation with complete cervical dilatation where the presenting part is above the spines and the other is a second twin presenting as a transverse.

SUDDEN DEATH FROM "PITUITRIN" SHOCK

JOHN E. KRETTEK, M.D.

COUNCIL BLUFFS

AND

BENJAMIN C. RUSSUM, M.D.

OMAHA, NEBR.

The role of parenterally administered pituitary preparations in producing collapse or sudden death has been well established and numerous such instances have been recorded. The great majority of the cases reported have, however, been associated with various surgical or obstetrical procedures or in combination with general

anesthetic agents. The evaluation of the specific effect and degree of responsibility of the pituitary product in such cases has frequently been obscured by such concomitant factors as blood loss, tissue trauma, reflex activities and the toxic or pharmacologic effects of anesthetic or supportive drugs. The case here described is of interest since death occurred prior to any form of manipulation and in the absence of any other medication.

The fatalities due to the pituitary agents have been generally attributed to either anaphylaxis or coronary constriction. The relative roles of the two mechanisms could be evaluated by the clinical course and autopsy findings in the case here recorded.

In the case to be reported the purified oxytocic fraction of the posterior pituitary (pitocin) was the agent responsible for coronary spasm and death. Although this substance has seldom been reported as the cause of such a fatality, Kantor and Klawans¹ obtained the greatest reaction with such a deproteinized agent in a series of patients tested with various pituitary preparations. They concluded that only the nonbiologic type of oxytocics (ergot derivatives) can be employed with absolute safety. The action of the oxytocic drug is pointed out by Greenhill² who summarizes the recent definitive studies of Parsloe and co-workers³ as follows: "pituitary extract acts on the heart through the vagus nerves by stimulating the cardioinhibitory center and it causes constriction of the coronary arteries and a decrease of cardiac output, with resulting myocardial asphyxia." Since the maximal action of pituitrin develops 30 to 45 minutes after intramuscular injection, frequent repeated doses may produce a cumulative reaction.

CASE REPORT

History: A 32 year old secundigravida was admitted at term on March 22, 1949. Her past medical and surgical history shed no light on the present illness. She had been delivered uneventfully of her first pregnancy in this hospital at term of a living infant 13 years ago. The hospital record for that admission indicates that 1 cc. of pituitrin was given hypodermically at the end of the second stage. Her blood pressure was 120/80. The present pregnancy had been uneventful and physical examination revealed no abnormalities of the cardiovascular or other systems.

Elective medical induction of labor with pitocin was instituted at 11:00 a.m. At 5:00 p.m. after the last of eight hypodermic injections of 1-3 minims (total 16 minims), she complained of headache and shortness of breath. Her skin developed a flushed, mottled appearance, and her lips became cyanotic. She expired about 30 minutes after the initial onset of symptoms in acute circulatory collapse. Postmortem cesarean section failed to save the infant.

Autopsy Findings: The significant anatomic

From Departments of Gynecology and Obstetrics and Pathology, The Creighton University School of Medicine and The Creighton Memorial-St. Joseph's Hospital, Omaha, Nebr.

diagnoses were: Acute cardiac ventricular dilation with ecchymoses, subserosal along both anterior descending and circumflex branches of left coronary artery, subendocardial over left side of interventricular septum, and into papillary muscles of left ventricle. The lungs and pulmonary vascular tree were normal. The heart weighed 270 Gm. The ventricles were acutely dilated. On the serosal surface of the left ventricle and paralleling the anterior descending branch of the left coronary artery were numerous ecchymoses extending from the cardiac apex to base. Similar up to 1 x 0.8 cm. flame-shaped subendocardial hemorrhages were present over the left side of the interventricular septum. On cross section the coronary vessels were patent and atherosclerotic changes were not present. Microscopically in the hemorrhagic areas there was considerable distention of the small branches of the coronary arteries and extravasated blood between the myocardial fibers. This was especially prominent in the subendocardial layer.

Clinicopathologic Correlation: Death was due to the specific pressor action of pitocin upon the coronary arteries, producing vasoconstriction and sudden decrease in cardiac output. The vasoconstriction of the coronary vessels was of sufficient duration to cause anoxia in the heart; small coronary branches or capillaries ruptured and there was hemorrhage beneath the epicardium and endocardium.

SUMMARY

There is reported a fatal case of "pituitrin" shock occurring during the medical induction of labor with the purified oxytocic fraction of the posterior pituitary gland. This case supports the contention that untoward cardiac effects can be avoided only with nonbiologic oxytocics.

BIBLIOGRAPHY

1. Kanter, A. E.; and Klawans, A. H.: Shock from posterior pituitary Extract. *Am. J. Obst. & Gynec.*, 56:366-369 (August) 1948.
2. Greenhill, J. P.: *Year Book Obst. and Gynec.*, p. 151, The Year Book Publishers, Chicago, 1950.
3. Parsloe, C. P.; Morris, L. E. and Orth, O. S.: Relationship of various anesthetic agents to the action of pituitrin, pitressin and pitocin. *Anesthesiology*, 11:76-95 (January) 1950.

EYE MANIFESTATIONS OF HEAD INJURIES

HENRY H. GURAU, M.D.
DES MOINES

The incidence of eye manifestations in cerebral injuries has been estimated between 70 and 80 per cent by various workers. This shows how important it is to do a careful eye examination on all head injury cases. It should not surprise us though that eye symptoms run so high, because embryologically the eyes are a part of the brain, and of the 12 cranial nerves, six are wholly or partially concerned with supplying the eyes.

Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

There is a tendency of fractures of the base of the skull to converge toward the pituitary region, and any damage in that area is prone to damage some of the nerves supplying the eyes. The optic foramen is not frequently involved, but fractures tend to go through the cribiform plate of the ethmoid, the body of the sphenoid and the superior orbital fissure.

The management of these cases is up to the neurosurgeon but proper interpretation of ocular findings can help greatly with the proper diagnosis, prognosis and treatment.

All too often we see that the search for a skull fracture is foremost in the examination of head injuries. While this is important, the amount of damage to the brain can be estimated more accurately by the duration of unconsciousness, the pulse rate, the breathing which may be of the Cheyne-Stokes type and other general signs. In many cases, we do not know what pathological changes actually take place in the brain but there are always disturbances of circulation, minute hemorrhages, edema and often areas of softening. These changes together with the increased pressure resulting from edema or hemorrhage are responsible for the neurological findings in most cases. Of course a basal fracture may injure a nerve directly but that happens less frequently.

The following points should be covered in a neuro ophthalmological examination of head injury cases:

- 1. External inspection and palpation.
- 2. Pupils.
- 3. Motility.
- 4. Fundus.
- 5. Central vision.
- 6. Peripheral vision.

In examination of the eyes inspection and palpation alone may give us some valuable clues.

TABLE 1
APPEARANCE OF HEMORRHAGES IN BASAL SKULL FRACTURES

| ANTERIOR FOSSA | MIDDLE FOSSA | POSTERIOR FOSSA |
|-----------------|----------------------|--------------------------------|
| Subconjunctival | Into Temporal Region | Into the nuchal region |
| Palpebral | From the mouth | Into the occipital region |
| Peripalpebral | From the nose | Into the post-auricular region |
| Orbital | From the ear | |
| Retinal | | |
| From the nose | | |
| From the mouth | | |

Exophthalmus may be due to an orbital hemorrhage. If due to rupture of the carotis interna and a resulting arteriovenous aneurysm, the proptosis appears one or two months after the injury and we find the typical signs of marked congestion and chemosis of the conjunctiva, pulsation, thrill, engorged retinal vessels, sometimes choked disk and diplopia.

Proptosis may also be due to orbital emphysema following fracture through the ethmoid. In these

cases it may become more marked when the patient is asked to blow his nose. In all cases of exophthalmus there is potential or real danger of corneal damage due to exposure, and measures have to be taken to prevent it.

Disturbances of the pupils are the most frequently encountered findings in head injuries. Often the pupils are undergoing changes in size and shape every few hours. They may even change while the eyes are being examined. Most pupillary changes are transitory in character, that means if the patient survives, the pupils return to normal within a few days or weeks. The most comprehensive classification of pupillary changes I could find is contained in an article by Blakeslee, in which he describes his observation on 610 cases.

1. Widely dilated pupils with fixation are often observed immediately following the injury. This is the most serious finding as far as the prognosis is concerned and 94.5 per cent of the patients died.

2. Widely dilated pupils with preservation of light reaction may become normal within a few days or progress into the first category. The prognosis is fair and the mortality was 30 per cent.

3. Unilateral dilated and fixed pupil is considered a most valuable sign in deciding on a surgical decompression. In almost all cases it gives evidence of epidural hemorrhage on the same side. If in addition we get the typical clinical picture of a lucid interval of several hours or days after the injury followed by unconsciousness, slow pulse, Cheyne-Stokes breathing, convulsions, contralateral hemiplegia and possibly choked disk, the diagnosis of epidural hemorrhage can be made with great confidence. The mortality in this group is 50 per cent.

4. Pupils equal in size without marked dilation or contraction. These pupils often show irregular outlines and sluggishness or absence of the light reaction. The mortality in this group was 32 per cent.

5. Pupils unequal in size but without marked dilation or contraction. Mortality 44 per cent.

6. Contracted and fixed pupils, mortality 70 per cent.

7. Contracted pupils with preservation of light reaction, mortality 40 per cent.

Analysis of this chart shows clearly that bilateral fixation of the pupils indicates a grave prognosis, and if in addition to the fixation, the pupils are dilated, the patient is almost certain to succumb. It has to be kept in mind that a dilated and fixed pupil can be due to direct injury of the optic nerve in which case it would be combined with blindness and of no prognostic significance.

The finding of a dilated and fixed pupil with homolateral hemiplegia is explained by direct injury of the same side and contrecoup injury

of the opposite hemisphere. In these cases, a bilateral decompression is usually used.

Disturbances of the motility of the eyes are not infrequently found. They may be due to injury of the muscles, nerves, nuclei, fasciculi or cortical centers. Many cases are due to compression of a nerve by a hemorrhage. Here the prognosis for recovery of function is good, but if the nerve has been divided the disability will be permanent.

A hematoma at the apex of the orbit may involve the optic nerve as well as the nerves passing through the superior orbital fissure—the 3rd, 4th, 6th and first division of the 5th nerve. After absorption of the hematoma function may return but the resulting scar tissue may lead to cicatricial enophthalmus.

The nerve most frequently affected is the 6th nerve because of its long course in the cranial cavity and its vulnerability where it crosses over the apex of the petrous pyramid. The resultant defect is a convergent strabismus and uncrossed diplopia.

Injury of the 3rd nerve is less frequently found. Usually some of its branches only are affected. This may result in ptosis, dilation of the pupil and paralysis of accommodation, or paralysis of some of the extraocular muscles of one or both eyes. These findings would indicate a nuclear lesion. Complete internal and external ophthalmoplegia of one eye excludes a nuclear lesion.

The trochlear nerve is the one least often affected and the resultant paralysis of the superior oblique muscles causes vertical diplopia and strabismus.

If there has been an injury to the motor cortex, we find a conjugate deviation toward the side of the injury if the lesion was destructive and involved the posterior end of the second frontal convolution. If the lesion is only irritative, the deviation is to the opposite side.

Nystagmus may be due to damage to the labyrinth in which case it is usually temporary. If it is due to brain stem injury, it indicates a less favorable prognosis and is usually permanent and may be quite incapacitating if the patient recovers.

There are some cases on record of partial or complete Weber's syndrome-oculomotor paralysis with contralateral hemiplegia. These cases are explained by a hemorrhage from the middle meningeal artery, causing pressure on the motor cortex as well as on the 3rd nerve in the middle fossa, whereas a true Weber's syndrome is due to a posterior fossa lesion affecting the midbrain. Paralysis of convergence and divergence have been observed on a traumatic basis.

The oculist is often in a position to differentiate between an upper and a lower neuron-lesion. A patient may be unable to elevate his eye voluntarily or by following an object. Yet when asked to close his eyes tightly we see the eye rotating up reflexly. This is known as Bell's phenomenon and proves that the nuclei are intact and we are

dealing with an upper neuron lesion. There may be an inability to adduct an eye in looking to the side, but in convergence the eye may rotate nasally. Again our conclusion is that the nucleus is unaffected.

Lesion of the first division of the 5th nerve is rare and may be due to a fracture involving

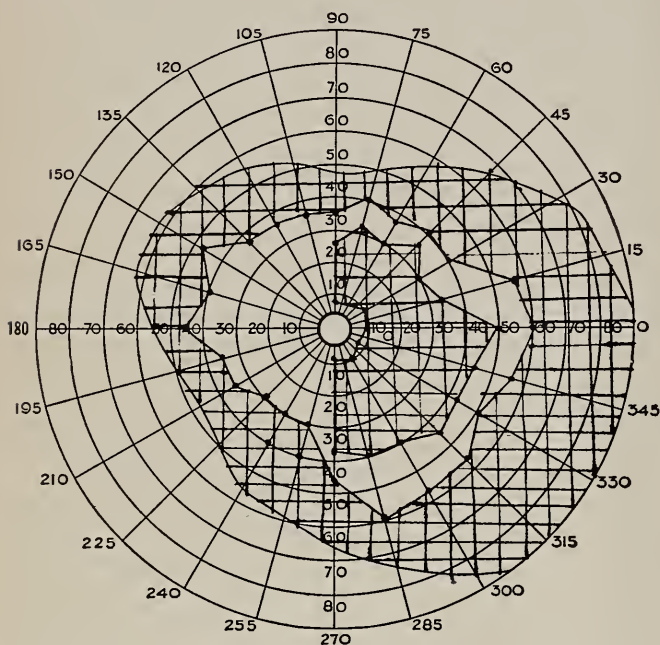


Figure 1

the superior orbital fissure or to compression from a hemorrhage in the middle fossa. It is diagnosed by loss of corneal sensitivity. In paralysis of the 7th nerve, which is infrequently seen, the orbicularis oculi is affected only if the lesion is peripheral. In upper neuron paralysis the upper branch of the facial nerve is not affected because of its bilateral cortical representation.

Ophthalmoscopic examination will not infrequently show hemorrhages. These may be retinal, subhyaloid or in the vitreous.

In subarachnoid hemorrhage we frequently see hemorrhages around the disk, which may be extensive and extend into the vitreous body or be preretinal. The mechanism of these hemorrhages is still subject to debate. They are believed by some authors to be due to direct extension of the subarachnoid hemorrhage through the lamina cribrosa, while others feel that they are caused by compression of the central retinal vein where it leaves the optic nerve. Spinal tap in cases of subarachnoid hemorrhage shows to the presence of blood.

A full-blown choked disk is not a frequent finding. If it does develop it takes from three to eight days or longer. However, minor changes of the disk have to be watched for. There may be only slight blurring of the upper and lower borders which gradually increases to involve the nasal border also and last of all the temporal

border. We may find engorgement of the veins in the neighborhood of the disk and a few minute hemorrhages. Repeated examination is important in order to observe any increase in the disk changes because it is this increase that would prompt us to recommend decompression. Disk changes are frequent in subdural hemorrhage.

In injury to the frontal lobes papilledema is rarely present. We encounter it more often in lesions of the hemispheres and in its most marked form in posterior fossa involvement. It is to be remembered that mild to moderate papilledema can be caused by direct injury to the eyeball, often accompanied by lowered intraocular tension.

Examination of central vision is often impossible. If the patient is irrational only a crude estimation of visual acuity can be made.

Some cases show complete blindness immediately following the injury with subsequent improvement, leaving a central scotoma or defects in the field of vision. The mechanism causing complete blindness has not been clearly established. In a few cases it is due to direct injury of the optic nerve by a fracture passing through the optic foramen. Hemorrhage in the optic nerve sheaths has been found in some cases in which an exploratory operation has been performed, but evacuation of the blood failed to restore vision, probably because it was done after the condition had existed for too long a time. These hemorrhages may be caused by extension of a subdural hemorrhage or by rupture of vessels passing between the nerve and its sheaths.

In those cases in which vision returns spontaneously in part or wholly, the initial blindness is believed to be due to physiologic block of nervous impulses from concussion or stretching of the optic nerve. If optic atrophy follows it usually appears in about three weeks but has been observed as early as six days and as late as three months following the injury. This difference in the time interval is explained by the level at which the nerve is injured, an injury just back of the lamina cribrosa showing atrophy sooner than one at the apex of the orbit.

If it is difficult to determine the visual acuity in many cases it is even more difficult to obtain a field of vision. In the case of a bedridden patient, examination can often be done with the small hand perimeter of Schweigger and if that is not feasible, an ophthalmoscope, the head of which has been removed, may be used for a fairly accurate estimation of the visual field defect.

Field defects are frequent. They may be due to injury of the optic nerve, traumatic cerebral edema, contusion or laceration of brain tissue, intracranial hemorrhage or increased intracranial pressure.

Hysterical defects are not uncommon and are believed by some observers to be more frequent than organic ones. There may be an organic defect with a super-imposed functional one. The

changes characteristic of hysteria are tubular fields and reversal of the color fields.

In injury to the optic nerve the field defect is limited to one eye. There may be a sector-shaped defect, or central scotoma may be found. The defects are usually absolute and have steep edges.

The chiasma may be torn in the anterior-posterior direction with resultant bitemporal hemianopia.

I saw a case like that in September, 1950. The patient had been injured in a gasoline explosion in February, 1945. As soon as he recovered consciousness he noticed that his side vision was impaired. On examination, his visual acuity was:

Right: count fingers at ten feet, not improved by glasses.

Left: 20/40 Corr. by -1.00 x 75 to 20/25.

He had a right divergent strabismus.

Pupils reacted normally.

There was a slight pallor of both optic nerves. Perimetric examination showed a bitemporal hemianopsia.

The diagnosis was: traumatic median dilaceration of the chiasma.

Lesions behind the chiasma result in homonymous field defects.

Lillie and Adson have reported two cases in which there was delayed loss of vision due to unilateral central and ring scotoma. These cases were explained by callus formation following fracture through the optic foramen. I have observed a similar case which I would like to report. The patient had been in an airplane accident

in May, 1944. There was a short period of unconsciousness and he was hospitalized for two weeks and discharged to full duty. I saw him January, 1945 at which time he complained of gradually increasing frontal headaches and loss of vision in the right eye. Visual acuity was R-20/30, L-20/15. Accommodation, muscle balance and convergence were normal. There was no nystagmus or defect of the corneal sensitivity. Fundus examination showed a slight haziness of the nasal border of the right disk. The left field was normal. The right field showed concentric contraction and a semicircular defect in the temporal field. X-ray showed a narrowing of the right optic foramen as compared with the left. The field defect was considered to be due to pressure on the optic nerve by a callus following a fracture through the optic canal.

SUMMARY

Eye manifestations in head injuries are observed in about 80 per cent of the cases and may involve the adnexa, pupils, motility, fundi, central or peripheral vision. When properly evaluated, they may be of great diagnostic, prognostic and therapeutic aid.

DISCUSSION

Placidus J. Leinfelder, M.D., Iowa City: Dr. Gurau has given a complete description of the important ocular signs and symptoms that result from head injury. These syndromes are numerous and occur because of disturbed function that follows structural disruption when injury to brain tissue

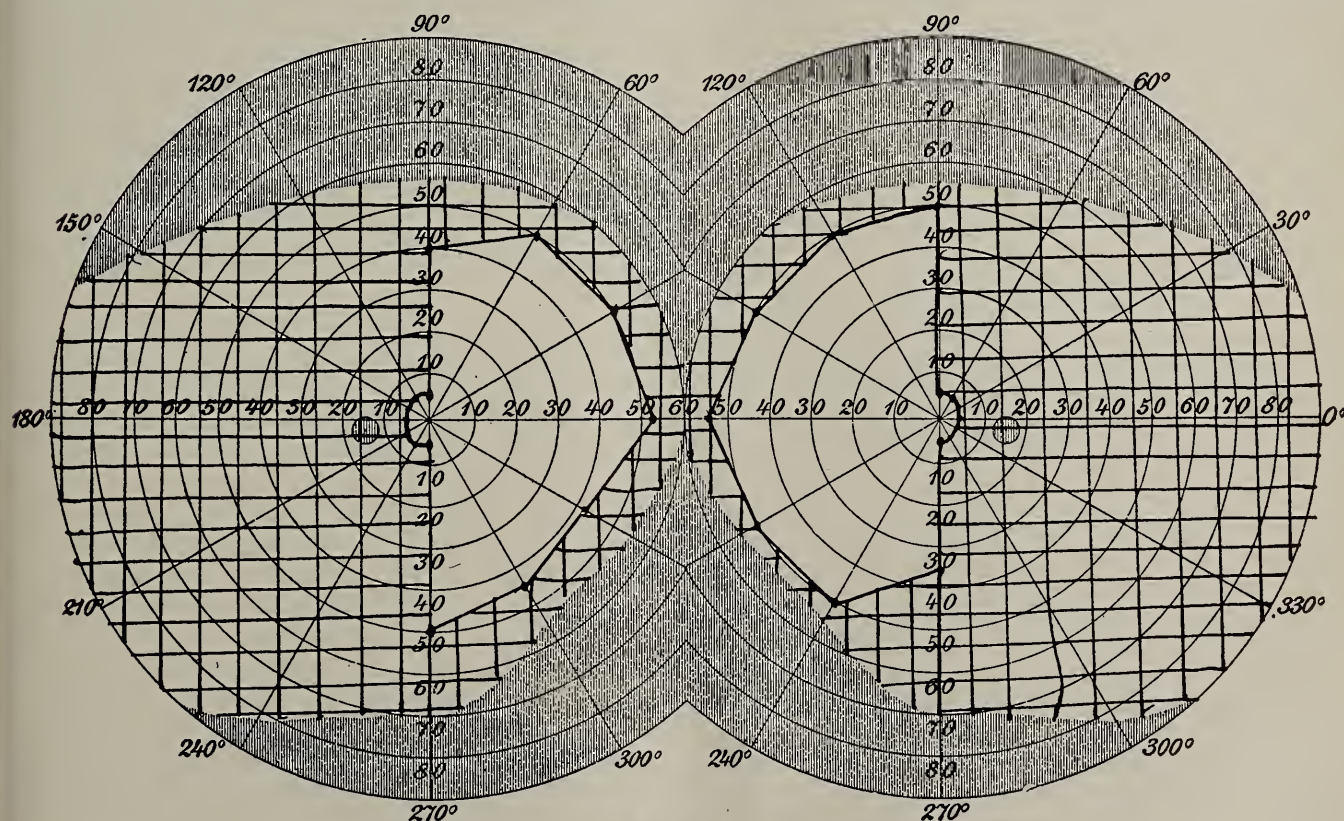


Figure 2

occurs. It becomes axiomatic that the extent of anatomical disorganization determines the extent of the symptomatology.

My experience with patients having head trauma has not been great. However, it has always appeared to me that the pupillary phenomena were more confusing than helpful, for fixed pupils in dilatation or constriction, or anomalies of contraction may occur with a variety of lesions under circumstances that make it difficult to correlate the signs with the site of the lesion.

Fracture of the optic canal and hemorrhage into the vaginal sheath of the optic nerve should be suspected in the patient with fixed, dilated pupil, apparent blindness and hemorrhages in the retina. Decompression and surgical inspection and cleansing of the area of the optic canal may remove pressure on the optic nerve and prevent permanent loss of vision and the development of optic atrophy.

Visual fields are frequently difficult to obtain. However, in some instances, although the patient will not respond verbally, the movement of the eyes toward a flashlight placed in the peripheral field indicates the preservation of that field of vision.

In dealing with trauma, one should not overlook the late occurrence of symptoms due to subdural hematoma. Weeks and even months after head trauma, headache, changes in the visual fields, anomalies of ocular rotation and papilledema may occur because of encapsulated blood beneath the dura.

State University of Iowa
College of Medicine

CLINICAL PATHOLOGICAL CONFERENCE

April 2, 1952

SUMMARY OF CLINICAL RECORD

A 56 YEAR OLD woman was admitted as an emergency to the Medical Service of the University Hospitals because of a "crisis" following a tracheotomy. The patient had enjoyed good health until the death of her husband four years before. From that time to the present admission she had had periods of despondency. One year before admission, tissue which had overgrown the dental plates had been removed from the cheek. Two months before admission to this hospital, the patient entered a clinic with the complaint of fatigue. She was treated with two types of pills for frequent crying spells and for restlessness. According to the patient's sister and daughter, there were episodes of mental confusion thought to be associated with these medications. Near the end of this two-month period, anorexia and nausea were frequent complaints.

Four days before admission to this hospital, the

patient developed a sore throat. Three days before admission the throat "acted like quinsy" and a "sulfa" drug and sedative were ordered. The following day a physician made a diagnosis of tonsillitis. Later that day the patient had difficulty in breathing. The temperature was 103° F. She was hospitalized locally, given 100,000 units of diphtheria antitoxin, large doses of penicillin, and later that evening a tracheotomy was performed. The throat culture was reported positive for *Corynebacterium diphtheriae*. The patient was transferred to the University Hospitals.

First hospital day: The patient was acutely ill and unable to give a reliable history. The state of nutrition was excellent. A well-functioning tracheotomy tube was in place. The skin showed normal turgor. The conjunctivae were red and injected. The tongue was dry and rough. The pharynx was fiery red and a thick, dark grey necrotic membrane was noted over the tonsillar fossae. The cervical lymph nodes were enlarged, and considerable edema was found about the tracheotomy wound. The lungs were normal except for a few rhonchi over the bases. The respiratory rate was 35 per minute. The blood pressure was 178/74 mm. of Hg., and the heart rate was 100 per minute. Cardiac murmurs were not heard. The heart was not enlarged to percussion and no overactivity was noted by palpation. There was a well-healed lower midline abdominal scar. The hemoglobin was 12.5 gm. per 100 ml. The erythrocyte count was 5.12 million per cu. mm. and the white blood count was 900 per cu. mm. The urine had a specific gravity of 1.025. There was 2 plus albumin and no sugar or blood by chemical tests. The microscopic examination revealed a urine loaded with epithelial cells and granular casts. The blood CO₂ was 46 volumes per cent, and the blood chlorides were 655 mg. per cent. Throat smear revealed rods with metachromatic granules which were not isolated due to *Pseudomonas aeruginosae* overgrowth. One hundred thousand units of diphtheria antitoxin were administered. One hundred thousand units of penicillin were ordered every three hours, day and night.

Second hospital day: The general condition remained unchanged. The body temperature was 103° F., the respiratory rate was 30 per minute, and the pulse rate was 110 per minute. There was spreading edema of the entire pharynx with evidence of membrane formation on the posterior pharyngeal wall. A tic-tac cardiac rhythm was observed. The white blood count was 500 cu. mm. with a majority of cells classified as lymphocytes.

Third hospital day: Edema of the pharynx was less. Cyanosis was observed and oxygen therapy was started. An otolaryngologist examined the patient and stated that the airway was adequate. A moist, brownish-grey membrane was observed extending down from the pharynx and covering the false vocal cords. The gums were bleeding and spongy. Later in the day the heart rate increased

to 150 per minute. The heart tones were decreased in intensity, and "tic-tac and gallop type sounds" were heard. The electrocardiogram was normal except for a sinus tachycardia. A total of 1.2 mg. of digitoxin was administered in divided doses over a period of six hours. The heart rate slowed to 135 per minute. The chest examination revealed fine basilar rales bilaterally, with a decrease in the breath sounds and dullness to percussion over the lower third of the right lung field posteriorly. The chest film was interpreted as "essentially healthy chest." The white blood cell count was 1,150 per cu. mm. with a differential count of 25 per cent band polys, 25 per cent segmented polys, 10 per cent metamyelocytes and 40 per cent lymphocytes.

Fourth hospital day: There was increase in the cyanosis. The patient was considered to be well hydrated. The respiratory rate was 30 per minute, the pulse rate was 160 per minute, the body temperature was 103° F. Otherwise there was no significant change in the patient's condition. The otolaryngologist noted that considerable amounts of necrotic membrane of the posterior pharynx could be stripped off. By indirect laryngoscopy, a large polypoid mass was observed which was attached to the left arytenoid. It was believed that this mass precluded the possibility of removing the tracheotomy tube. White blood cell count was 4,750 per cu. mm. with a differential blood count of 40 per cent band polys, 28 per cent segmented polys and 23 per cent lymphocytes.

Fifth hospital day: There was some improvement in the general condition. The pulse rate was 120 per minute, the respiratory rate was 35 per minute, and the body temperature was 100° F. The patient remained mentally confused.

Sixth hospital day: The patient exhibited more difficulty in breathing and was disoriented. The respiratory rate was 40 per minute. The temperature was 100° F. The white blood cell count was 43,000 per cu. mm. with a differential count of 56 per cent band polys, 20 per cent segmented polys, 40 per cent lymphocytes and 14 per cent myelocytes and 6 per cent blast cells.

Seventh hospital day: The patient could not be roused. The pulse rate was 120 per minute and the respiratory rate 50 per minute. The body temperature was 99.6° F. The tracheotomy wound was dirty and necrotic in appearance in spite of tracheotomy hygiene. A bronchoscopy was done. Thick mucous was removed from the trachea. Secretions were satisfactorily removed from the segmental bronchi of the lower lobes. The patient seemed improved following this procedure; however, she died quietly nine hours later.

SUMMARY OF NECROPSY FINDINGS

There was extensive lobular pneumonia involving all of the left lung and all but a small emphysematous portion of the upper lobe of the right lung. The pneumonic process had progressed to the formation of numerous early abscesses with extensive

suppuration of lung tissue. Aside from the necrotizing areas, the pneumonia was characterized by extensive edema, fibrin deposition and a conspicuous hyaline membrane formation in many areas. The tracheotomy wound was necrotic and foul smelling, and there was rather extensive cellulitis with ulceration of the trachea and main bronchi. In the pneumonic exudate segmented polymorphs were the predominant cells, although there were great numbers of immature cells of the myeloid series and large mononuclears. The spleen was only moderately enlarged, weighing 325 Gm. Microscopically, the pulp was stuffed with cells, many of which were immature cells of the granulocytic series. Scattered plasma cells were also present and occasional nucleated red cells were present. In addition to the immature cells, fairly numerous segmented polymorphs were also present. The lymph nodes generally were hyperplastic with conspicuous overgrowth of the reticulo-endothelial elements. Intermingled with the hyperplastic reticulo-endothelial cells of the sinusoids were numerous immature cells of the granulocytic series, segmented polymorphs and scattered plasma cells. The lymph follicles were not particularly hyperplastic. The bone marrow from the shaft of the femur and sternum was quite cellular. Most of the cells appeared to be immature forms of the granulocytic series. Occasional segmented and numerous band polymorphs were present. There was a relative paucity of nucleated reds. The liver was considerably enlarged, weighing 2300 Gm., and microscopically showed congestion with numerous white cells in the sinusoids, but nothing microscopically suggesting leukemic infiltration. There was moderate generalized arteriosclerosis with mild arteriosclerosis of the kidneys and a mild degree of cardiac hypertrophy.

NECROPSY DIAGNOSES

Agranulocytic angia (clinical).

Bilateral necrotizing lobular pneumonia, extensive.

Ulcerative tracheitis and bronchitis, recent.

Tracheotomy with necrotizing cellulitis of tracheotomy wound.

Mild arteriosclerosis and cardiac hypertrophy.

Focal hyperplasia and involution of thyroid.

CLINICAL DISCUSSION

Dr. Henry E. Hamilton, Medicine: Before we proceed with the discussion, I will turn this conference over to Dr. DeGowin, who will discuss the protocol as an unknown.

Dr. Elmer L. DeGowin, Medicine: When one reads the protocol, and knows the patient is dead, one starts hedging and looks for all the clues possible, whether they are of any importance or not. The first one in this patient's history is the note that one year before admission she had some tissue removed from the cheek which had overgrown the dental plates. There are a great many benign

lesions, I am sure, that do this; but when one is thinking of fatal lesions, one thinks, among other things, of the possibility of a leukemic infiltrate. The fact that this happened a year before the final illness, however, rather makes it unlikely that this was due to leukemia, because ordinarily the leukemic patients who develop these infiltrates are pretty sick, and do not last that long.

She obviously had a depression. It is mentioned that she had periods of despondency, and one of her chief complaints was fatigue. She had emotional instability and restlessness. All these things, at the age of 54 years, following the death of her husband, point to the presence of a depression.

She consulted a physician two months before admission to the hospital, and he gave her two types of pills, presumably for symptoms such as fatigue. We do not know what that medicine was, but one can imagine, possibly, that it was a sedative of some kind, or possibly some medicine, such as benzedrine, to exert the opposite effect. The doctor might have considered that she had thyrotoxicosis and given her thiouracil. I think that at the time this occurred, thiouracil was the only one of the anti-thyroid drugs available. Or, he might have given her aminopyrine or some of the other drugs which contain a benzene ring. This may be important in light of the subsequent developments.

Nevertheless, she went on for two months without getting any better. As a matter of fact, she got worse. She developed anorexia and nausea. Four days before admission to the hospital, she got an acute infection of the throat, for which she was given one of the sulfonamide drugs and a sedative.

Soon after that a membrane was seen in the throat, and she was given 100,000 units of diphtheria antitoxin and large doses of penicillin. The edema of the throat progressed to the point where a tracheotomy was necessary. All this happened in four days. A throat culture was obtained at the other hospital which was reported to contain diphtheria bacilli.

We might consider the differential diagnosis at that point. She had acute sore throat with a fever and with a considerable amount of edema. A membrane was seen and diphtheria bacilli were cultured from the throat. Does that mean that she had diphtheria? Not necessarily. The diphtheria bacillus is an inhabitant of many normal throats, particularly in the wintertime; and before we had antibiotics it was not uncommon to have the whole hospital more or less closed up. A case of diphtheria would develop on a ward, then somebody who had not had experience along this line would begin culturing the throats of all the rest of the patients and of all the staff, and would get a certain number of positive throat cultures. Then the ward would be quarantined, perhaps the staff would be quarantined, then another case would be discovered in some other part of the hospital,

and one kept on culturing and isolating until the whole hospital was closed down, and none of these people who were isolated ever got diphtheria. Then the question would come up: when to release these people? The laws in most states required three negative throat cultures, and sometimes one could not get three negative throat cultures. As an intern, I ended up culturing some doorknobs and other things in order to get some of these people back to work.

I merely say that to emphasize that the diphtheria bacillus is a normal inhabitant of many throats, and one certainly has not proved, by a positive throat culture, that the person has clinical diphtheria. Of the organisms which commonly produce membranes in the throat, the diphtheria bacillus is one, but the streptococcus also produces a membrane which is, in spite of the books, more or less indistinguishable on physical examination from that due to diphtheria. Practically one's only criterion for differentiating is to see its response to antitoxin.

The patient was given both antitoxin and penicillin, which is active against the diphtheria bacillus, but apparently there was no subsidence of the inflammation. The patient was sent to the hospital. At that time, as the protocol mentions, there was a well-functioning tracheotomy tube, there was tremendous edema of the throat, and there was a dirty membrane. The other findings are not particularly informative until we come to the blood count, which revealed only 900 leukocytes per cu. mm. Incidentally, no platelet counts are recorded here. We would like to know about them. Subsequent differential leukocyte counts showed the granulocytes were deficient, and that we were certainly dealing with an agranulocytosis.

What was the cause of the agranulocytosis? This is one of the key points in the differential diagnosis. We have to look back two months to the medication which was started at that time. We do not know what it was, but we do know that a number of drugs will occasionally produce agranulocytosis, particularly those which have a benzene ring. Sodium amytal, benzedrine, thiouracil, pyrimidon (aminopyrine) are possible agents. Other barbiturates occasionally have been reported, and this syndrome of agranulocytosis seems to be one which results from almost any kind of drug sensitivity, perhaps regardless of whether the antigen contains a benzene ring or not.

Could that explain what we know about this patient? It could; it is not unusual for patients to take one of these drugs for two months without any trouble and suddenly develop agranulocytosis. Agranulocytosis comes on quickly. As a result of the agranulocytosis, infection occurs and progresses at a rapid rate.

One of the weak points of the body's portals of entry for organisms is the mouth, so that it is one of the points where infection shows up early, and a clinical syndrome develops which may be called

Vincent's angina. This clinical and bacteriological picture is not incompatible with Vincent's angina or agranulocytic angina. The organisms are not specific. It would also account for the fact that the membrane did not melt away after the administration of diphtheria antitoxin or penicillin.

There is one more thing, however, that we also must consider. In England during the war, there was much consternation when a virulent epidemic of diphtheria occurred and the resulting toxin was not neutralized by antitoxin made from the usual strain. It is possible that this patient did have a strain of diphtheria organisms which were not treated satisfactorily with antitoxin or penicillin, but that seems unlikely.

The next fact of importance was that *Bacillus pyocyaneus* was obtained in the throat here and diphtheria organisms were not. *Pyocyaneus* is not acted upon by penicillin, and it is possible that there was an overgrowth of it as a result of killing the other organisms in the throat with penicillin.

We might also have to consider the fact that this patient was previously sensitized to sulfonamide drugs, and then developed agranulocytosis during the four days of therapy with sulfonamide before she came into the hospital. However, that does not explain the pharyngitis, and it seems to me, if we are going to explain it on a basis of drug sensitivity, that we had better go back two months to the other drugs she received.

On the third day, there seemed to be increasing concern about this patient's heart. It is noted that she had tic-tac sounds and gallop rhythm. The electrocardiogram was reported normal except for a sinus tachycardia, but the rate was considered to be excessively fast, and she was given digitoxin to slow the rate. She had some signs of cardiac failure besides. She had rales in her lungs, and probably there was adequate reason for digitalizing the patient. But, if she had diphtheria, and these cardiac signs were due to a diphtheritic myocarditis, giving digitoxin was a questionable procedure, because diphtheria toxin is essentially a myocardial depressant. Giving another depressant drug in addition has led to much controversy.

On that day, however, her leukocyte count was increased, and band polymorphonuclear cells, as well as segmented forms, were appearing in her blood stream. There were also some metamyelocytes.

On the fourth day, her leukocyte count was higher and the differential count was reported as almost normal. However, her heart was very fast. On the fifth day, she was confused and her pulse rate was still 120.

On the sixth day a change occurred in the peripheral blood. The leukocyte count went to 43,000 per cu. mm., and there were many myelocytes and blast cells. This could mean one of three things. Once in a great while, one sees peculiar blood pictures the last day or so of life, when the bone marrow seems to run wild. Then again, this could have been an aleukemic phase of leukemia.

The agranulocytosis might have been a phase in the leukemia, and the infection entered the throat at the time of the agranulocytosis. We would like to have known whether the platelets were diminished or not for that reason. Another possibility is that this was a leukemoid reaction, which occurs rarely after agranulocytosis.

On the seventh day, there was a development that caused concern. A bronchoscopic examination at that time was said to have done some good. However, on the fourth day, the otolaryngologist looked into the larynx and described a large polypoid mass which was attached to the left arytenoid. He believed that this mass precluded the possibility of removing the tracheotomy tube. I wonder what happened to that mass in the interim.

If I had to venture a diagnostic opinion, I would put first agranulocytosis on the basis of the drug sensitivity, with secondary infection of the throat, probably with diphtheria organisms. The second choice is that this patient had leukemia.

Dr. Hamilton: Thank you Dr. DeGowin. Could we have the student opinion?

Junior Student: This morning the students considered agranulocytic angina, leukemia and a toxic agranulocytosis with secondary diphtheria. As the cause of death, 19 voted for toxemia and myocarditis, five for asphyxia, 22 for septicemia, five for bronchopneumonia, and one for aspiration pneumonia.

Dr. Hamilton: I would like to go through the record and read the impressions as this illness progressed. The first doctor who saw this patient considered diphtheria, possible agranulocytosis, and possible pyonephritis. He obtained a throat culture, started penicillin, and gave diphtheria antitoxin and intravenous fluids.

An otolaryngologist was called to care for the tracheotomy, and he stated, "I am sure if this is a diphtheria she ought to make a satisfactory recovery. The tracheotomy tube will be removed as soon as possible." Two days later he was considerably worried about the airway, even though it was open, for she had a tachycardia and rapid respiratory rate.

Here is another observation, "Guesses in order of probability: agranulocytosis, diphtheria, septic sore throat." Another observer recorded: "Diphtheria until proved otherwise. Agranulocytosis with possible secondary infection of the pharynx, with a virulent K-L organism." Other impression were: "Dehydration, tachycardia, possibly due to above, fever and dehydration. At present, probably does not have a diphtheritic myocarditis." Apparently that person was overruled and the digitoxin was started. "Agranulocytic angina secondary to drugs. Possible ulcerative opening into the trachea."

X-ray films were taken when it was thought that she had pneumonia. The portable film was normal. Even so, rales were heard in the chest, and there was a suspicion that there might be something wrong with the lungs. Here is a note by Dr.

DeGowin and A. E. Montgomery recommending a bronchoscopy.

In defense of the initial treatment, I would like to point out that the patient had a pharyngeal membrane. Someone had reported finding K-L organisms. The patient had been given penicillin. As you know, penicillin may negate the chances for obtaining organisms by culture or smear. I think that we were obligated to treat this patient with antitoxin. Under similar circumstances, one should carry out this form of treatment. Waiting for several days, as you know, increases materially the mortality rate in diphtheria. From that time on, it was a problem of trying to figure out why the patient had the rapid respiratory rate and did not improve.

The patient was given pentnucleotide, on the sixth day of the illness. There still is an argument in the literature as to whether pentnucleotide is of any value in stimulating a leukocyte response. I think we could say in this patient that the leukemoid reaction was already well on its way, and I am sure that if we had given the pentnucleotide four days before, we might have credited it for the rise in leukocyte count.

Dr. Emory D. Warner, Pathology: At the time of necropsy, there was a very extensive lobular pneumonia which involved all of the left lung and all but the upper part of the upper lobe of the right lung, and that, of course, was emphysematous. This pneumonia was in the form of multiple foci of consolidation. In between the foci of consolidation the lung was filled up with edema fluid, and in the lower half of both lungs there was beginning breakdown with incipient abscesses in many foci. Thus, there was a very extensive bilateral pneumonia with very little functional tissue left, and the pneumonia was necrotizing. This cellulitis was continuous through the bronchi and trachea as a necrotizing cellulitis to a necrotizing cellulitis of the tracheotomy wound itself.

I might say that the x-ray which was reported as a healthy chest was four days before death. I do not believe that even a portable film on the last day would have failed to show anything, because the lungs were almost completely airless at the time of death.

Aside from the finding of infection in the respiratory tract, the spleen weighed 325 Gm. It was stuffed with cells of all types. There were numbers of segmented polymorphs in the spleen; also, many immature cells including some nucleated red cells; and there were many plasma cells in process of formation and formed in the splenic pulp. The same was true of the lymph nodes, which were moderately enlarged generally. There was a lot of reticulo-endothelial hyperplasia with immature cells and plasma cells. The bone marrow was fairly cellular. Most of the cells were quite immature, but again rather mixed in type.

The liver weighed some 2300 Gm. It was congested and had many hematopoietic cells in the sinusoids; again, these were of all stages from

segmented granulocytes on down. However, at no place was there anything that looked like a leukemic infiltrate in the hematopoietic system. As far as the anatomic findings are concerned, this appears to be an excessive hematopoietic activity, rather than a leukemia; and it involved red cells as well as white cells.

By the time of death, there were at least enough segmented polymorphs that the segmented polymorph was the predominant cell in much of the pneumonic reaction; and in the developing abscesses, of course, segmented polymorphs were very numerous.

The heart was a little larger than normal and weighed some 370 Gm. It was not soft and flabby, nor was it dilated. Neither grossly nor microscopically was there evidence of myocarditis. I do not believe we have much in the way of evidence of a toxic myocarditis of any significance.

The other findings were just those that we ordinarily see. The kidneys showed what is commonly designated as "cloudy swelling" which we see with any severe toxemia. There was a very moderate arteriosclerosis. There were a few focal involutinal nodules in the thyroid, as an incidental finding.

Thus, from the anatomic standpoint, we have a case of very extensive necrotizing cellulitis involving the tracheotomy wound, the trachea and bronchial tree, and the lungs, with little functional lung tissue left. We have this extremely active hematopoietic response seen in the bone marrow and reticulo-endothelial system generally—lymph nodes, spleen, etc. This would fit either a leukemoid response to the toxemia, or a recovery phase beginning from the agranulocytosis.

Dr. Irving H. Borts, of the State Bacteriological Laboratory, who was to be here and was unable to come, asked me to make just a few comments relative to the question of diphtheria in this case. First, he wanted me to emphasize again that a diagnosis of diphtheria, as far as a virulent organism is concerned, can only be accomplished by the virulence test; and that the person, and there are some, who can identify toxin-producing organisms of this type on morphologic ground is the person who has never bothered to check up on himself with virulence tests. Anyone who has soon finds that he cannot identify toxin-producing organisms morphologically.

In this case, the positive report was the next morning after the culture was taken outside. Therefore, it almost surely was not based on a virulence test, but on morphology of the organisms. They did get positive morphology here on one occasion, but the culture was so overgrown that they were not able to do a virulence test. On the third culture, they again got organisms having positive morphology which were proved to be non-virulent. I think it is a fair assumption that the organism which was morphologically diphtheria was the same organism in all three examinations,

and in the final one it was proved to be non-virulent. Thus, it was probably not a virulent organism in this particular case.

The other thing which Dr. Borts asked me to mention was that diphtheria is becoming more and more a disease of the adult, and less a disease of childhood, by virtue of the fact that immunization is, for all practical purposes, routine. Therefore, cases are disappearing in children. That immunity is not always permanent, and many of the older people never were immunized. As a typical example, here in one series of 147 cases that were run down in 1941, there were 54 above 20 years of age, and scattered along in the various age periods: 1 to 2, only three cases; 3 to 4, five cases; 5 to 9, 27 cases; 10 to 14, 21 cases; over 20, 54 cases. Dr. Borts says this is a reasonably typical series of figures. Here is another one that showed 87 cases over 20 years of age out of a series of 223 cases.

Dr. P. T. Rao, Pediatrics: If this patient had already had antitoxin, would it influence the tests?

Dr. Warner: No. Antitoxin does not hurt the organism, either so far as growth is concerned, or as far as ability to produce toxin is concerned. The penicillin will interfere with the growth of the organism, and you might well fail to get a positive culture, but the antitoxin would not interfere with getting a positive culture, nor would it interfere with the organism producing toxin once you got it out in culture.

Dr. Rao: Would it make any difference in the type antitoxin produced?

Dr. Hamilton: Dr. Borts says it would not.

Dr. Warner: Penicillin might well interfere with getting a positive culture. It affects the growth of the organism itself, so you might well get a negative culture after penicillin treatment. That was the other thing Dr. Borts asked me to stress, that you need to take the culture before you give penicillin, or you are likely not to get a positive culture; and he pointed out that there are some cases reported where patients have died of diphtheria because this was not done. They came in with the sore throat and membrane, and penicillin was given. Following the penicillin treatment, a positive culture was not obtained. It was decided that this was not diphtheria, the treatment was stopped, and antitoxin treatment was not given. The patients subsequently died, and by that time they did have a positive culture.

Diphtheria in general is going down, and the few cases we do get are in adults rather than children, so that perhaps there are no more cases in adults than there always were, but the percentage of cases that are in adults is greatly increased.

Dr. Hamilton: I think on a local basis here in Iowa and in this country that diphtheria is probably going down, but I think on a world-wide basis there is said to be an increase. I do not know the reasons for that.

Dr. Warner: I do not have the figures on the world-wide incidence. In Iowa in 1932 there were 657 cases, in 1950 there were 24.

Dr. Hamilton: It is of interest to note that here we see a person with acute agranulocytosis and find that the white cells are extremely low. On the other hand, the red cells are in the normal range. We would like to seek an explanation for that possible occurrence. In other words, here a drug has perhaps suppressed one element of the marrow and appears not to have suppressed the other. We do know that when people survive chronic benzene poisoning, anemia develops later on. They have a depression of all the elements that are produced by the marrow. Perhaps the red cell series in our patient were depressed in the acute phase, but we could not measure it, for the red cells that were in the body at the time this marrow depression took place will live 120 days or so. Thus, I do not think we can say for sure that this was just purely a suppression of the myeloid and lymphoid elements.

Dr. DeGowin, do you want to change your impressions, in light of the findings?

Dr. DeGowin: No, I do not think this solves the problem, one way or the other. I would like to point out one more thing about the virulence test. Of course, anyone who is immune to diphtheria can have virulent organisms in the throat without having clinical diphtheria, so the mere finding of virulent organisms does not necessarily prove that the patient has clinical diphtheria. But in the presence of a membrane and pharyngitis with virulent organisms, one is certainly obligated to treat the patient for diphtheria.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a. m.

BEFORE THE DOCTOR COMES

June 5.....Rash
June 12.....Drugs in the Home
June 19.....Headache a Signal
June 26.....The Child With a Tummy-Ache

WSUI—Tuesdays at 11:45 a. m.

THE DOCTOR'S REPORT

June 3.....The Arthritis Problem
June 10.....Surgery in Congenital Heart Disease
June 17.....Arteriosclerosis
June 24.....Treatment of Essential Hypertension

WINNERS OF GOLF TOURNAMENT

Dr. William E. Catalona of Muscatine, shot a 78 to win the State Society's Annual Golf Tournament at the Wakonda Golf Course during the Annual Meeting in Des Moines. Ensign James C. Donahue, Jr., son of Dr. James C. Donahue of Centerville and Dr. James B. Gault of Creston tied for second place at 85.

The JOURNAL *of the* Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager...Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MRS. MARILYN McLAUGHLIN, Assistant Editor....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.....Van Meter
DANIEL A. GLOMSET, M.D.....Des Moines
TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton
WENDELL L. DOWNING, M.D., Trustee.....Le Mars
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

*Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9*

Vol. XLII JUNE, 1952 No. 6

WHOSE INTERESTS IS THE BOARD OF MEDICAL EXAMINERS SAFEGUARDING?

The Board of Medical Examiners has been given a great deal of publicity in the past months and recently the Attorney-General's office has ruled it did not possess the authority to set up certain rules and regulations. Too many newspapers inferred the board was trying to discriminate in favor of physicians already licensed and against physicians from foreign countries.

It is regrettable that there has been so much publicity without any comprehension of the underlying motives of the board. The board is acting at all times to safeguard the public's interest, and the State Medical Society, which is familiar with the problems it faces and sympathizes with its objectives, has gone on record publicly as approving of its actions.

The alien physician is the focus of the present furore. The public does not realize how extremely difficult it is to obtain any information about the medical education of these physicians. The schools which they attended have in many instances been closed because of World War II. Their records are non-existent. It is impossible to prove that a physician attended such medical colleges, or what courses of training he took while there if he did attend. Medical education was completely disrupted for many years in some countries. Medical advances resulting from military research in the Allied countries did not penetrate into countries of our opponents. Brutal and senseless as war is, it did stimulate research and many of our newer and very effective pharmaceuticals were developed during and since that conflict. Many alien phy-

sicians have had no experience with these "miracle" drugs.

The Board of Medical Examiners is required to pass upon the qualifications of all physicians licensed to practice in the state. This is to make sure that only qualified persons are licensed to take care of the people of Iowa. Fifty years ago Iowa had many more physicians than it has today, and "diploma mills" flourished. The medical profession undertook to correct this situation by establishing certain standards for medical schools, so that all physicians trained therein would have a sound education upon which to draw in caring for the people of this country. This provided better doctors for our people, and proof of the wisdom of that step may be seen in the greater span of life today as compared to 50 years ago.

Coming back to foreign physicians, it is essential that the Board of Medical Examiners know something of their training. For that reason some states have insisted on a year's internship in an approved hospital in that state. In this way local doctors check on the physician's ability, the knowledge he has of medical practice and recommend him accordingly. It seems only logical that this internship should be served in the place where the man intends to practice. Why should he not be willing to be trained in the community in which he intends to live? Certainly it seems evident that any board could rely more confidently on local physicians who supervise such internships for alien physicians.

Next, the language barrier is sometimes mentioned and some claim the inability to speak and understand English should be no handicap. We feel this is definitely untrue. It is inconceivable that a foreign physician could locate today in a community where every person spoke his language so that the knowledge of English would be unnecessary. We believe it is essential that the physician be able to understand his patients' statements accurately and that in turn he can advise them in language they can understand without difficulty.

The intention to become a citizen is one requirement made by the Iowa board which has been widely criticized. We cannot agree with this criticism. We feel our nation is the land of opportunity today and that there are many thousands of persons in Europe and the Near East who would give much to become part of it. We cannot believe that any physician who wishes to make his living in this land of opportunity would not want to be a citizen. This requirement, in our opinion, should bar no one nor cause a moment's hesitation to a physician desiring to practice medicine in accord with the Hippocratic Oath and the high principles of medical ethics. It is possible that a physician desiring only the monetary return from medical practice with the least possible expense on his part might object to the requirement, but we raise the question as to whether such a physician would serve the public well and faithfully.

We think the House of Delegates was wise in asking that this whole question be studied and explained to the members of the next Legislature so that the present statute may be strengthened and the interests of the public safeguarded.

THE 1952 ANNUAL MEETING

The last four days in April provided the setting for the 1952 annual meeting of the Society, a meeting which in many ways ranks as one of the best we have ever had. Attendance figures showed there were 846 members registered, 76 medical guests, 69 other guests, 184 exhibitors and 192 members of the Woman's Auxiliary for a total of 1,367.

For many years our meeting has been held one week earlier and the weather has not always been as pleasant as it was this year. Some physicians took advantage of the later date to come in for the Drake Relays on Saturday, and many played in the golf tournament on Sunday when the weather was excellent.

The House of Delegates meeting Sunday afternoon and evening was well attended. We feel the officers exhibited good judgment in allowing ample time for this meeting of the House and in urging all physicians to attend, whether delegates or not. As a result, presentations were not hurried, and the intermission for dinner made the long session less tedious than it might have been otherwise.

For the past several years the House has been appointing reference committees to study reports and resolutions, hear arguments for and against them and to draw up recommendations for action after this careful consideration. The use of reference committees helps speed the work of the House but does not deny any person the right to be heard on a subject in which he is interested. The AMA has long utilized this procedure and it has been most effective.

The second session of the House, held on Wednesday morning, was able to transact all of its business efficiently before the start of the general sessions.

Last year for the first time the Board of Trustees presented Awards of Merit to Dr. Martin I. Olsen and Dr. Clyde A. Boice for outstanding work for the State Society. The custom was continued this year, the presentation being made before the general assembly so that more members might participate. Those honored this year were Dr. Daniel J. Glomset of Des Moines for his work on the Speakers Bureau, Dr. Walter A. Sternberg of Mount Pleasant for his work in Society offices and Dr. John T. McClintock of Iowa City for his educational work at the University. The presentation of the awards was a very happy note in the Tuesday morning session and we know we speak for all members of the Society when we commend the Trustees for this project.

Dr. Clyde A. Henry of Farson was chosen the outstanding general practitioner of the year. Dr. Henry is a familiar figure because he has been active in State Society affairs for many years, and his selection was soundly approved.

Your editor gained the impression that these two awards were among the happiest moments of the session. That may be due to the fact that all of us were glad to honor these men who have done so much for us, and in so doing, were lifted for a moment from the daily trials and tribulations which beset us.

The program committee deserves a great deal of credit for the outstanding speakers. All sessions were well attended, attesting to the popularity of the essayists. Copies of nearly all of the talks have been turned in to the *Journal* and will appear in print during the coming year.

The scientific exhibit section was exceptionally good. Dr. Conzett, last year's President, is to be congratulated for approving the use of the Midtown Roller Rink for the scientific exhibits and two of the scientific meetings. Situated less than a block from the hotel, it provided excellent exhibit space together with adequate meeting room facilities. The unseasonably warm weather had not been foreseen, but the rink was no warmer than many hotel rooms. Dr. McMillan, chairman of the scientific exhibit section, deserves mention for his work in building up this part of the meeting. The University, as usual, had ten excellent exhibits. Several individual physicians brought outstanding presentations, and the different organizations which had displays had also chosen carefully and their booths attracted considerable interest. The Blue Shield lounge proved a popular resting place and we hope it may be an annual feature.

Dr. Conzett and Dr. Whitaker highlighted Society activities in their addresses before the general session. Dr. Whitaker assumed the presidency on Wednesday, and Dr. Robert N. Larimer of Sioux City, past chairman of the Board of Trustees, was made President-elect.

Mention should be made of the past presidents' luncheon held on Monday at which time attractive lapel pins were presented to all of those present. Dr. Edward M. Myers, formerly of Boone but now residing in Dallas, was the only past president unable to attend. Dr. Charles B. Taylor, formerly of Ottumwa but now of Claremont, Calif., made the trip and traveled the greatest distance. This, too, was another of the human interest phases of our meeting, one of the opportunities we had to pay tribute to our former leaders.

Other highlights of the meeting which should be mentioned are the social evening presented by the Woman's Auxiliary Monday, at which time the Kendall Players presented readings and the banquet Tuesday evening. Here, too, Dr. Conzett changed the pattern and we believe those who attended enjoyed the music and program very much. The social hours given through the courtesy

of the House of Vision and the Physicians and Hospitals Supply Company were greatly appreciated.

The 1952 meeting is over but plans are already under way for the 1953 session. It, too, will be held in Des Moines, probably the last days of April.

PHYSICIANS WHO RECEIVED MERIT AWARDS FOR LONG AND FAITHFUL SERVICE TO MEDICINE

During the 1952 Annual Meeting the Board of Trustees selected three physicians to be recipients of awards for their contributions to organized medicine.

Dr. Daniel J. Glomset of Des Moines, was commended for his work in the research field of cardiac conduction systems, and in establishment of the Iowa State Medical Society's Speakers Bureau.

Dr. Walter A. Sternberg of Mount Pleasant, received his award for positions of importance within the organization of the State Society. The last official capacity in which he served was that of Chairman of the Board of Trustees. As a trustee he proved to be a capable leader at a time when leadership was most needed. He played a large part in the expansion of the Medical Society activities and accordingly increased the personnel of the state office.

Dr. John T. McClintock of Iowa City, was cited for his contributions while a professor in the College of Medicine at Iowa City. To quote directly from Dr. McClintock's citation: "As Trustees we wish to pay tribute to physicians we feel have contributed greatly to the welfare of the State Society and in our opinion you have done that in your official capacity with the College of Medicine just

as truly as if you had done it as an officer of the State Society."

The awards were presented during the general session April 29 by Dr. Robert N. Larimer, Chairman of the Board of Trustees.

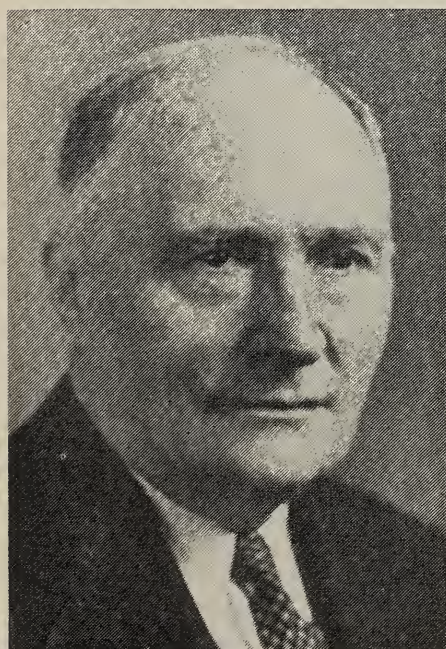
IDIOPATHIC VENTRICULAR TACHYCARDIA

Ventricular paroxysmal tachycardia is often associated with serious heart disease, particularly coronary occlusion with infarction. However, for many years it has been recognized that this seemingly serious arrhythmia may occur in otherwise normal hearts.

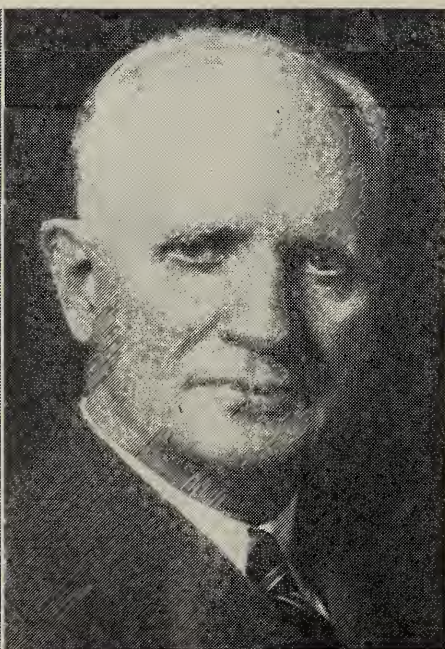
Dr. Roy Scott of Cleveland claims the distinction of having originated the quinidine treatment for ventricular paroxysmal tachycardia, having seen an episode in a young woman aged 22 many years ago. As the literature offered no help at that time he tried quinidine and the patient recovered and remained in good health. Dr. Paul White, in his second edition of *Heart Disease*, dwelt briefly with ventricular paroxysmal tachycardia and stated that it should be "considered serious until proven otherwise." Dr. White recently stated that they now have treated several individuals who had experienced such episodes. One Iowa physician has had several attacks lasting up to 18 or 20 hours. During the attacks the ventricular rate has been around 230 with an auricular rate of 115, and myocardial exhaustion has been prompt and severe. He is now convinced that he has an otherwise normal heart and that all such attacks occur after, not during, periods of marked emotional strain.

At the October, 1951 meeting of the American College of Cardiology in New York City, Dr. W.

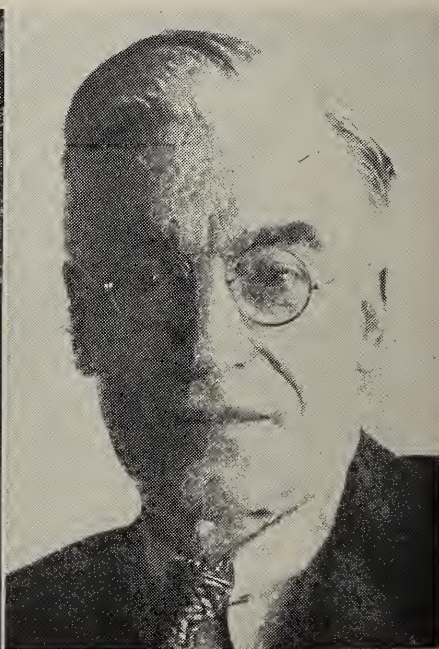
MERIT AWARD WINNERS



Dr. Daniel J. Glomset



Dr. Walter A. Sternberg



Dr. John T. McClintock

Raab, Professor of Experimental Medicine at the University of Vermont, discussed hyperadrenalism as the cause of ventricular paroxysmal tachycardia. He attributes stimulation of the adrenals by emotional strain as the causative factor flooding the blood stream with excess adrenalin. Attacks may be fatal. A case was cited in which neither electrocardiographic evidence nor autopsy showed any other evidence of cardiac pathology. X-ray therapy of the adrenals has been used to suppress the formation of excess adrenalin. Incidentally such treatment to the adrenals seems also to alleviate anginal pain in some cases. The effect is comparable to that of total thyroidectomy which was advocated and used about 1935 but which has since been more or less abandoned. It is claimed that anginal attacks have been prevented for several months following x-ray therapy to the adrenals.

For those with a tendency to hyperadrenalism and attacks of ventricular tachycardia the avoidance of emotional tension will help prevent the attacks. Sometimes a gradual cessation of tension and activity rather than an abrupt relaxation will be effective. With the onset of ventricular tachycardia digitalis is contraindicated. Quinidine should be given in large doses. When used cautiously with barbiturates and combinations of barbiturates and opiates the treatment may be life saving. The patient who experiences these attacks scarcely needs to be warned to be quiet as extreme physical exhaustion is almost instantaneous. Weakness persists for days and weeks. This is in contradistinction to auricular paroxysmal tachycardia in which a patient may be ambulatory and resume work shortly after the rhythm becomes normal again.

IOWA'S OUTSTANDING GENERAL PRACTITIONER FOR 1952

Dr. Clyde A. Henry, 78, of Farson, was named Iowa's outstanding general practitioner for 1952, recently, at the Annual Meeting of the Iowa State Medical Society. Dr. Henry, a country practitioner for 55 years and still in active practice, was nominated by the Wapello County Medical Society. He began his medical career after graduation from Keokuk Medical School in 1897. In addition to his success as a physician, Dr. Henry has become widely known as a poet and historian. He has published poetry volumes, and was a heavy contributor to the books, *Medical History of Wapello County* and *One Hundred Years of Iowa Medicine*.

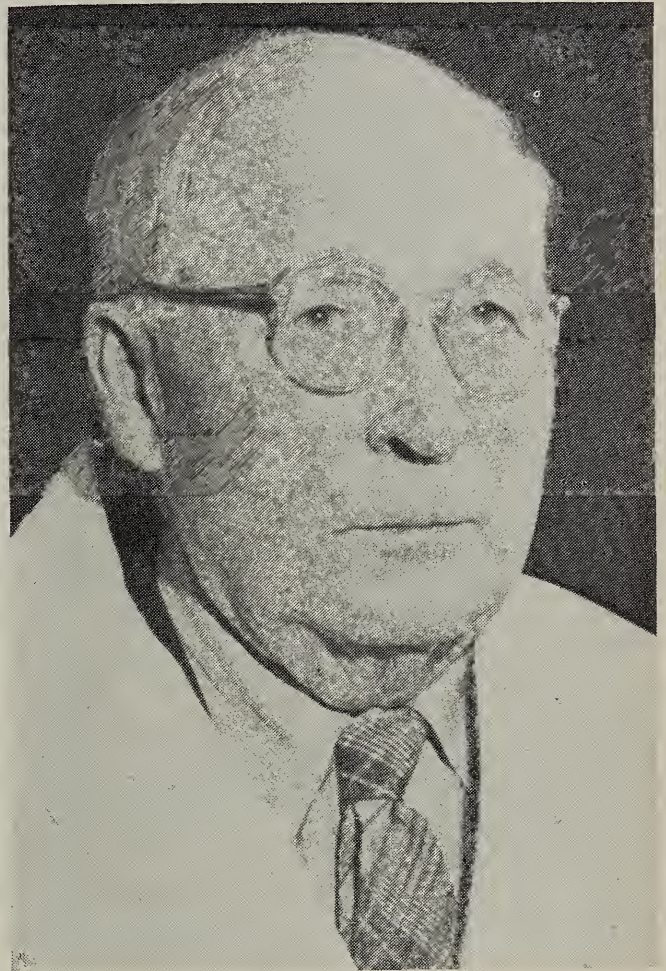
As an indication of his interest in civic affairs, Dr. Henry assumed as one of his first projects the installation of a telephone line in 1898. Over the objections of some who were still calling it an instrument of the devil, he recruited men to cut poles and string a mile of wire, connecting the town of Compentine (now Farson) with the outside world.

Testimonial letters submitted by his patients attest to his ability as a physician. These are a few

quotes taken from letters which were submitted through the Wapello County Medical Society:

"There never was a time that the weather and roads were too bad for him to come."

GP AWARD WINNER



Dr. Clyde A. Henry

"I don't know what we country people would do without him."

"He gives unstintingly of his time to each patient and is loved both as a physician and friend."

Dr. Henry is the second Iowa physician to receive this honor. The first recipient was Dr. Ambrose E. Wanamaker, of Hamburg. The name of this year's general practitioner will be filed with the American Medical Association for consideration as the outstanding general practitioner in America. The selection of the national recipient will be made during the Interim Session of the American Medical Association next December.

AMA ANNUAL MEETING

Doors of the world's largest and most important medical meeting will be opened this year to the public for the first time through the medium of television.

Doctors who cannot personally attend, and the
(Continued on page 280)

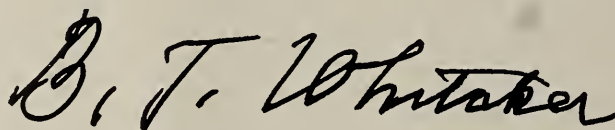
President's Page

One of the most important Committees of the State Society is the one now known as Medical Service, formerly called the Committee on Medical Service and Public Relations. This name was changed a year ago to conform to the AMA and we now have a special Committee on Public Relations.

Back in 1948 when President Truman tossed his socialized medicine bomb into our ranks, we, like the other State Societies, had no organization set up to fight the issue. We were fortunate in having the strong Committee as above named, headed by Dr. Fred Sternagel of West Des Moines, and the Society owes a great deal to these men for the manner in which they met the challenge.

This year Dr. Sternagel has made each member of his Committee head of a division, giving them a subcommittee with which to work. The divisions are insurance, public information, veterans affairs, allied professions, hospital and professional relations, relief and health agencies, labor and industry and health education.

This has been done to coordinate the work of the Society. These various divisions will be able to give the Council pertinent information which will help it in making decisions and will make for more efficiency in our organization.

A handwritten signature in cursive script, reading "B. J. Whitaker". The signature is written in dark ink and is positioned above the printed name.

President, Iowa State Medical Society

General Manager's Page

RURAL HEALTH

President Whitaker is most desirous of making Rural Health a major project of the State Medical Society during the coming year. With that in mind, the Committee on Rural Health, under the direction of Dr. Dwight G. Sattler of Kalona, will meet with and cooperate with the various rural health councils and all rural groups who concern themselves with rural health. We are fortunate in having the cooperation of Mrs. C. C. Inman, chairman of the women's program for the Farm Bureau, and also of the Extension Department of Iowa State College to assist us in developing what we hope will be the finest rural health program in the country.

INDUSTRIAL HEALTH

A similar plan of re-activation is desired in the field of Industrial Health. We appreciate that the progress of this committee will of necessity be slow, but we also feel that Industrial Health should be considered on a par with Rural Health.

GERIATRICS

A new subject in which you are all interested will also be studied at the state level, and that is geriatrics. We hope that some type of survey will be attempted during the coming year, and that, when this survey is announced, you will cooperate to the fullest extent. We invite your suggestions concerning the development of this important program.

R. D. Bernard, M.D.

General Manager

BLUE CROSS



BLUE SHIELD

ASK HER TO GIVE YOU SOME PENICILLIN TO
TAKE HOME! TELL HER TO LET YOUR BLUE
CROSS PAY FOR IT—NO ONE
WILL KNOW THE
DIFFERENCE!



IOWA BLUE SHIELD IN 1951 CLAIMS PAID
BY TYPE OF SERVICE

| SERVICE | NUMBER OF SERVICES | PER CENT OF TOTAL | TOTAL PAID | PER CENT OF TOTAL |
|--------------------------------|--------------------------|-------------------------|------------|-------------------------|
| Hospitalized Medical Care | 9,449 | 14.3 | \$ 260,730 | 12.0 |
| Accident Care— Non-Fracture | 7,191 | 10.9 | 73,743 | 3.4 |
| Fractures | 2,481 | 3.8 | 107,441 | 4.9 |
| Obstetrical— Delivery | 5,611 | 8.5 | 336,834 | 15.5 |
| Caesarean | 273 | .4 | 27,335 | 1.3 |
| Miscarriage | 211 | .3 | 5,707 | .3 |
| Appendectomy | 2,135 | 3.2 | 212,287 | 9.8 |
| Tonsillectomy | 4,023 | 6.1 | 108,990 | 5.0 |
| Herniotomy | 775 | 1.2 | 80,725 | 3.7 |
| Cholecystectomy | 628 | .9 | 87,553 | 4.0 |
| Hemorrhoidectomy | 850 | 1.3 | 39,073 | 1.8 |
| Hysterectomy | 907 | 1.4 | 118,388 | 5.4 |
| Salpingectomy | 156 | .2 | 14,725 | .7 |
| Oophorectomy | 184 | .2 | 17,283 | .8 |
| Dilatation and Curettage | 1,072 | 1.6 | 27,320 | 1.3 |
| Ligation Varicose Veins | 315 | .5 | 21,535 | 1.0 |
| Thyroidectomy | 128 | .2 | 18,875 | .9 |
| Cystoscopy | 838 | 1.3 | 24,295 | 1.1 |

| | | | | |
|----------------------|--------|--------|-------------|-------|
| Prostatectomy | 139 | .2 | 20,575 | .9 |
| Benign Breast Tumor | 324 | .5 | 8,152 | .4 |
| Other Benign Tumors | 543 | .8 | 14,916 | .7 |
| Anesthesia | 10,764 | 16.3 | 107,177 | 4.9 |
| X-ray—Diagnostic | 6,274 | 9.5 | 54,668 | 2.5 |
| X-ray—Radium Therapy | 125 | .2 | 8,758 | .4 |
| All Other Surgery | 10,458 | 16.2 | 376,129 | 17.3 |
| TOTAL | 65,854 | 100.00 | \$2,173,214 | 100.0 |

Blue Shield Participating Physicians—2,292—93% of total
Iowa State Medical Society membership.
Blue Shield Members—Des Moines area 73 counties—270,301.
(January 1, 1952) Sioux City area 26 counties—42,796
Total 313,097.
Blue Cross Members—Des Moines area 73 counties—509,012.
(January 1, 1952) Sioux City area 26 counties—91,851.
Total 600,863.

BLUE SHIELD MONTHLY STATISTICS

March, 1952

| | |
|------------------------------|--------------|
| Enrollment | 328,057 |
| Claims Processed for Payment | 5,970 |
| Amount Paid in Claims | \$201,932.35 |

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

REPORT OF ANNUAL MEETING

The twenty-third Annual Meeting of the Woman's Auxiliary to the Iowa State Medical Society began with an executive board meeting April 28 at the Savery Hotel in Des Moines. Mrs. Howard W. Smith, President, presided at all meetings. Reports of state officers and committee chairmen were given and recommendations considered in the various fields of activity. The treasurer, Mrs. Dwight C. Wirtz, reported a balance on hand to date of \$3,122.10. The finance chairman, Mrs. William B. Chase, presented a proposed budget for the coming year of \$2400.00.

A motion was carried to the effect that the Advisory Committee be approached in regard to printing the Auxiliary membership list in the same issue of *The Journal of the Iowa State Medical Society* in which the roster of membership of the Iowa State Medical Society appears.

Specified additions were recommended for the improvement of the Auxiliary yearbook. Mrs. Loyd K. Shepherd, program chairman, suggested that program material be incorporated in notebooks in each county Auxiliary to be passed on to successive officers. *Today's Health* chairman, Mrs. Richardson E. Clark, recommended that all subscription details be cleared by county Auxiliary chairmen and results forwarded to the state chairman.

Lyon and Page county Auxiliaries were organized during the past year bringing the state total to 34 Auxiliaries.

A motion was passed that the dues for 1952-53 remain at \$3.00; \$2.00 of which remains in the state and \$1.00 of which goes to National.

It was pointed out that Executive Board members or those attending board meetings by request will receive mileage at the rate of 6c per mile with two exceptions; those attending with their husbands who are also attending board meetings of the Iowa State Medical Society will not receive mileage since it will have been paid to their husbands. Those attending with a group in a car will not receive mileage; only the driver of the car will receive mileage.

Mrs. Leo J. Schaefer, First Vice-President of the Woman's Auxiliary to the American Medical Association, was present and graciously contrib-

uted helpful advice. She stated that a new ruling will allow one delegate for every 100 members from a State Auxiliary to the National Meeting, only if a delegate's husband paid his \$25.00 dues to the AMA in 1951.

Following the morning meeting a luncheon was held in the Terrace Room at which time Mrs. Schaefer was the honored guest speaker. While her talk concerned itself chiefly with organization, it also encompassed most of the phases of Auxiliary work. She referred to the new material just completed by herself and her committee which will be an aid in increasing membership. There are 57,000 Auxiliary members in the United States, 1,034 medical auxiliaries and 900 medical societies without auxiliaries. In Iowa there are 2,464 members of the State Medical Society and 886 Auxiliary members. There is an extensive field in our own state for increasing membership. Invariably, the county medical societies which can boast auxiliaries have consistently better attendance at meetings.

There are certain subjects about which doctors' wives should be thoroughly informed. They should know about the American Medical Association and its functions; they should know the Twelve Point program of the AMA. They should know the arguments for and against socialized medicine and also be informed about voluntary health insurance plans. Whitaker and Baxter believe that it would have been impossible to disseminate the advertising against socialized medicine without the help of the medical auxiliary. Doctors' wives should promote *Today's Health*. They should know about health councils and their functions; they should promote nurse recruitment. Auxiliaries throughout the United States are now responsible for 500 nurses' scholarships. Information about civil defense should not be neglected. It came as something of a shock to learn that Wichita, Kan. is closer to Russia than New York City. Doctors' wives need to keep posted on medical legislation. They need to take an interest in the World Medical Association and the American Medical Educational Foundation to which the National Auxiliary has contributed \$10,000.00. Efforts are being made to create a Student American Medical Association.

All Auxiliary activities must of necessity be

cleared through the Medical Advisory Councils, for "Study without action is futile, and action without study is fatal." It is well to remember, too, that in "Public Relations, you should send yourself, not your money."

Dr. Otis D. Wolfe, Chairman of the Council to the Iowa State Medical Society, spoke briefly and urged that the Auxiliary have representatives in every lay organization which has a health program and is concerned with the American way of life. He said that "Socialism is like a drop of ink in a glass of water." He recommended, also, that we must produce the leadership for care of the homeless and aged in our counties. Counties should assume the care of their own needy persons. We may not achieve our goals by stump speaking, but we can certainly lend a guiding hand and give of ourselves in all areas that will promote better living.

Mr. I. W. Myers, legal consultant to the Iowa State Medical Society, spoke about legislation. He stated that a bad precedent had been set when the government took over the steel industry. While the unions may have won a current victory, they have lost sight of the fact that government may also take over unions. All coal companies in England have produced less coal and less income since the government assumed control. An active, interested large group is vitally important to medicine now as never before, and we must not cease in our vigilance and effort against government control.

Following the luncheon a workshop for County Presidents, Presidents-Elect and Councilors was conducted by Mrs. George B. Crow, First Vice-President and organization chairman of the Woman's Auxiliary to the Iowa State Medical Society.

On April 29 the program consisted of a panel discussion, "Help Yourself to Health," which was moderated by Mrs. Keith M. Chapler. The papers and outlines which comprised this program will appear in later issues of the "Woman's Auxiliary News." Those who participated were: (1) A Survey of County Health Resources—John D. Conner, M.D., Nevada; (2) The Public Health Nurse Looks at Health—Miss Rae R. Campbell, R. N., Nursing Supervisor, Public Health District 6; (3) Rural Groups' Interest in Health—Mr. Merl Whorlow, Ames; (4) School Health—Clarence P. Phillips, M.D., Muscatine; (5) Voluntary Health Insurance Progress—Mr. Don Taylor, Field Secretary and (6) How a City-County Health Unit Can Function—Abraham Gelperin, M.D., Des Moines.

At the luncheon on April 28 Past Presidents of the Woman's Auxiliary were seated together in front of the speakers' table. Those present were: Mrs. M. N. Voldeng, First President of the Auxiliary, Mrs. William A. Seidler, Mrs. James A. Downing, Mrs. Elbert T. Warren, Mrs. Frederick W. Mulsow, Mrs. Jay C. Decker, Mrs. Soren S. Westly, Mrs. Fred Moore, Mrs. Roger M. Minkel and Mrs. Claire H. Mitchell.

Brief comments were made by Dr. Francis C. Coleman who urged members to vote and to insist that others do. Dr. Howard W. Smith paid special tribute to the past presidents. Dr. Donald C. Conzett, President of the Iowa State Medical Society, introduced the chief speaker, Dr. Edward J. McCormick, members of the Board of Trustees to the AMA. He was an earnest and forceful speaker and laid special emphasis on the fact that socialism is still trying to invade American life even if it has to come in through the back door under a guise such as the bill for hospitalization of those who are 65 and over. Dr. McCormick referred to the nine million dollar budget of the AMA, three million of which is spent for public service as it relates to the health of the nation. He commented on various organizations which have been associated with communism, among them the Methodist Federation for Social Action which is interlocked with the Committee for National Health and the Physicians Forum. The former group should not be confused with Methodism at large.

In actuality, the AMA and its Auxiliary "spear-headed the fight against Socialism, and even possible dictatorship" and neither can afford to relax their efforts currently or for an indefinite period in the future.

A delightful fashion show presented by Wolf's Apparel followed the luncheon. Lovely music for the luncheons on Monday and Tuesday was provided by Mrs. Nina Renquist, Mrs. Meriam Ryan and Mrs. Elizabeth Vetter. The Polk County Auxiliary entertained at tea on Monday afternoon at the Des Moines Art Center and the Des Moines Junior League conducted a special tour for guests.

On April 30th there was a 9:00 o'clock breakfast honoring the County Presidents and Councilors. A business session followed during which an impressive memorial for members deceased in the past year was presented. It was prepared by Mrs. William R. Hornaday and conducted by Mrs. William A. Seidler.

New officers were elected. Mrs. James A. Downing graciously conducted the installation of the following: President, Mrs. Lonnie A. Coffin, Farmington; President-elect, Mrs. Edward B. Hoeven, Ottumwa; First Vice President, Mrs. Lester R. Hegg, Rock Valley; Second Vice President, Mrs. Thomas E. Kane, Boone; Secretary, Mrs. Charles F. Lowry, Council Bluffs; Treasurer, Mrs. Dwight C. Wirtz, Des Moines, and Assistant Treasurer, Mrs. J. Fred Throckmorton, Des Moines. Councilors elected for three year terms are: First district, Mrs. Clayton W. Clark, Nashua; fifth district, Mrs. Roger M. Minkel, Fort Dodge; eleventh district: Mrs. Charles H. Flynn, Clarinda; Councilors elected to fill unexpired terms for those who resigned are: third district, Mrs. James P. Clark, Esterville, one year; sixth district, Mrs. James F. Gerken, Waterloo, two years; eighth district, Mrs. George B. Crow, Burlington, two years; seventh

district: A motion was carried to allow the President to appoint a councilor to fill Mrs. Gerken's unexpired term.

Mrs. Keith M. Chapler.

1951-1952 PRESIDENT'S REPORT

The achievements of the Woman's Auxiliary to the Iowa State Medical Society for 1951-52 are to be found in the annual reports of state officers, committee chairmen and county Auxiliary presidents. I commend to you the reading of these reports. Each officer has assumed her responsibility and duties with efficiency and the sincere desire to contribute to a year of growth for the Auxiliary.

The Medical Advisory Committee, Drs. Ben T. Whitaker, Chairman; Robert N. Larimer and Otis D. Wolfe and the General Manager of the Iowa State Medical Society, Ransom D. Bernard, met with our Program Committee last June to formulate the program for the year. Dr. Whitaker, Mr. Merl Whorlow, Health Specialist Ames Extension Service, Mrs. Wallace H. Longworth and Mrs. Howard W. Smith met in August to develop a rural health program. From these meetings the following program developed. The program for 1951-52 was built around the following projects, with special emphasis on health education.

1. Nurse Recruitment and Student Nurse Loan Fund.
2. Increase sales of *Today's Health*.
3. Sales of goods of handicapped and crippled.
4. Health education program.
 - A. School Health Program—work with County Health Programs.
 - B. Rural Health—cooperation with Ames Extension Service, Farm Bureau and 4-H Clubs.
 - C. Cooperation with lay groups and organizations.
 1. County Cancer Society.
 2. County Tuberculosis and Health Association.
 3. P. T. A. Health Committees.
 4. Legion Auxiliary Committees.
 5. Business and Professional Women's Clubs.
 6. League of Women Voters.
 7. P. E. O.
 8. A. A. U. W.
 9. Women's Clubs.
 10. Y. M. C. A.-Y. W. C. A.
 11. Eastern Star.
 12. Service Clubs.
 13. Church groups and others.
 - D. State Board of Health.
 - E. State and local health projects.
 - F. Community Health Councils.
 - G. Mental Health.
5. Constant education and activity concerning legislative matters.
6. Social Functions.

We were guided at all times by our Medical Advisory Committee and the General Manager of the State Medical Society, Dr. Bernard. We greatly appreciate their full cooperation.

Each state officer has called her committee together for conference at least once. Some committees have met several times during the year. I have attended many of these meetings.

Our membership of April, 1952 totals 851 members. Lyon and Page County Auxiliaries were organized the past year. With the addition of Councilors in our state organization we hope to greatly accelerate our organization program. With a Councilor in each of the eleven districts, we hope to give more assistance to the individual county auxiliary and to organize new auxiliaries. We hope to work more closely with the county medical societies where there are no auxiliaries. The district councilors can serve a real purpose in the correlation of our objectives of the county and state Auxiliary.

The Nurse Recruitment and Loan Fund Committee is responsible for the interest in Future Nurse Clubs in the high schools—not only in our own state but in many others. Our latest information on clubs in Iowa is: West High—Waterloo, Cedar Falls, Mason City, Boone and Centerville. Three student nurses are receiving financial help from our fund. Practically every county Auxiliary is doing a splendid job in student nurse recruitment and contributing to our Loan Fund.

In 1951, five county auxiliaries held Craft and Hobby Sales for the Iowa Society for Crippled Children and Adults. A total of \$3,204.93 was raised for about 180 handicapped people of Iowa by the sale of the articles which they had made. The county auxiliaries who sponsored the sales are: Black Hawk, Dubuque, Polk, Webster and Woodbury.

The Legislative Committee prepared a mailing list to enable each county Auxiliary to receive the *Capitol Clinic* and special *Bulletins* from Washington, D. C. The Committee's annual report contains a summary of all medical legislation presented to Congress during the past year.

The Public Relations Committee has presented excellent suggestions in which to coordinate our program goals on the county and local level. I recommend that you refer to their report for the concrete examples they have given us.

Delaware County Auxiliary has won recognition in the National *Today's Health* Contest for the second year. The *Today's Health* Committee has worked to increase the subscriptions for this magazine. An exhibit of *Today's Health* magazine was shown at our Annual Meeting this year.

Our Civil Defense Committee is set up and prepared to cooperate with the State Medical Society when any occasion should arise that requires its services.

The *National Bulletin* Committee is working to increase the subscriptions to this valuable maga-

zine. The *Bulletin* is a link between the National Auxiliary and the state and county auxiliary.

The Finance Committee has met several times to make a study of the budget. They have prepared a proposed budget for the Board's consideration at the Annual Meeting.

The Annual Meeting Committee has worked since last fall in preparation for the Annual Meeting. The Chairman has submitted a report of their work to be filed for future Annual Meeting Committees. The report filed last year was helpful this year.

The annual reports of the county Auxiliaries show what excellent work has been done on the county and local level by doctors' wives. I urge you to read the compiled mimeographed reports of state officers and county presidents to get an over-all picture of Auxiliary activities throughout the state. We can accomplish even greater work as more county Auxiliaries are organized.

As your President, I attended two national meetings: the Woman's Auxiliary to the AMA in Atlantic City and the Chicago Conference for State Presidents and Presidents-Elect in November. I had the privilege and the pleasure to meet with the following county Auxiliaries: Dubuque, Boone, Page and Polk. Meeting with the county auxiliary groups greatly help a state president to better understand auxiliary work at the "grass roots" level. I feel that all state officers can give better service if they have the opportunity to visit county Auxiliaries in the area in which they live. I urge county presidents to invite the Councilor and any state officer or committee member who lives in their respective Councilor district. Mutual benefit will be derived from the exchange of ideas. "Fertilize them in the soil of discussion," quoted from Honorable W. H. Judd, M.D., Congressman from Minnesota.

The Auxiliary has membership in the Iowa Council for Better Education. Mrs. Loyd Shepherd, Program Chairman, has been an active participant at their state meetings. Our Auxiliary sponsored a radio program over WOI with Mrs. Shepherd serving as moderator on a panel, "Community Health Problems." Mrs. Shepherd and I explained the program of our Auxiliary on KWDM in April.

Mrs. Charles W. Maplethorpe of Toledo and myself, were elected to the executive committee of the Iowa State Health Council. There are many doctors' wives throughout the state who are leaders in a great many organizations. Their services are Public Relations in action between the Medical profession and the public.

Our first Year Book was published in 1951. It marks another milestone along the road of progress for our Auxiliary.

As your President, I have learned some very valuable lessons through study and experience. One of these is the importance of keeping a record of material and reports from year to year on

which to build a strong organization. This is true for the county as well as the state Auxiliary. I recommend that county Auxiliary officers keep a record of material that is received from the national and state Auxiliary and keep a copy of their annual reports sent to the state Auxiliary each year. It is the only way in which to evaluate and show continued constructive growth. It also saves time and material. I also recommend that *each* Auxiliary member file her Auxiliary News Letters and the *National Bulletin* for future reference. This procedure has helped me in my Auxiliary work.

I take this opportunity to thank each state officer, county president and Auxiliary member for the full cooperation you have given me this past year. My sincere appreciation and thanks are extended to the staff of the State Medical Society for their assistance during my term of office. The Auxiliary has made heavy demands on the office staff this past year. A special thanks to Mary McCord for her kind and generous help to us. She has been a special kind of counselor in many ways.

MRS. HOWARD W. SMITH

1952-1953 PRESIDENT'S ADDRESS

It is a marvelous opportunity to have the privilege of serving as President of the Woman's Auxiliary to the Iowa State Medical Society. I am deeply aware of the honor which you have bestowed upon me and I wish to express my gratitude.

Progress in any organization is of vital concern to all of its members. This change in leadership must not mean a complete change in policy and program, but a continuation of work where our predecessors left off. Our work is continuous. With everyone working together and pulling steadily, much can be accomplished. Our nation's fate depends upon the people. We must not be uninformed.

I urge you to use the program you now have and to supplement it as new material is developed during the coming year. Become a well informed Auxiliary member. In working together for health as an organization, there are many ways by which we can demonstrate our abilities and interest.

The Bulletin and *Today's Health* give us important information and should be more widely used by all groups. *The Bulletin*, our work manual, provides information relative to our organization activities. "Just as politicians have campaign managers, and department stores employ an advertising staff," the medical profession depends upon *Today's Health* for much of its Public Relations. How much better for the public to learn health facts from a reliable source. It is the only authentic health magazine for lay people published in America. We urge Auxiliaries to sponsor its sale.

Let it not be said that doctors' wives are not alert to their civic responsibility in regard to Civilian Defense. I urge every Auxiliary member to

keep herself available and to take an active part in her own local community's civil defense plans. There is work for all to do.

This year will be a crucial year in legislation. The Auxiliary can be of great assistance in the following ways recommended by the Legislative Committee of the Iowa State Medical Society:

1. Check registration where it is required, and be sure that all doctors, their office assistants and all members of doctors' families are registered and eligible to vote.

2. Organize motor pools on election day and get voters to the polls. There are many people who find it difficult to get there under their own power. Drive them, or help them with baby sitting while they go to vote.

3. Get absentee ballots for those who are ill and unable to get to the polls, or who are going to be out of town.

4. Be sure to contact the doctors and as many other people as you can on election day.

5. If you have any question as to whom to support in your county, get in touch with the county Legislative contact and ask his advice.

More organization can be done to bring strength to our Auxiliary. The foundation of the Auxiliary, our traditions, ideals, objectives, can be had for the asking. We must not only get members; we must help to keep them activated. We have a place for members-at-large. They are the potential nucleus for a new county Auxiliary. Remember a small Auxiliary is important. Everything we do counts.

Our job is to help people to help themselves. The farm people of America, always strong on individual independence can develop a health program unequaled anywhere in the world.

An active Nurse Recruitment Committee is of the utmost importance. There is need for a larger Nurses Loan Fund. Your help will be appreciated. Nurse Recruitment is one of the pressing needs today. The Woman's Auxiliary is a natural medium for the promotion of this program, since a large number of our members are graduate nurses.

Work for the Handicapped is one of the outstanding public relations programs of our organization. The results from several counties have been most gratifying. We hope to increase the number of Craft and Hobby Shows over the state.

May I express appreciation to the out-going officers for their faithful, efficient service.

MRS. LONNIE A. COFFIN

TELEVISION SCHEDULE

WOI-TV at 8:30 p. m.

June 4.....Pathology

June 18.....Allergy

ELI LILLY AND COMPANY AIDS FLOOD VICTIMS

Eli Lilly and Company is replacing all Lilly products in pharmacies and hospitals ravaged by the flood in the Missouri and Mississippi River Valleys. Lilly representatives in a dozen states, from Montana to Missouri, have been directed to make the replacement of flood-damaged Lilly pharmaceuticals and biologicals their first order of business.

Along with the replacement of stocks, the Lilly company maintains a reserve supply of typhoid vaccine and other biological products which is kept ready for fast shipment during disasters. The shipping personnel of the company stands by 24 hours a day.

As the flood waters recede, the replacement of normal stocks will be made as fast as drug stores, hospitals and wholesale druggists reopen their doors. In the event of a threat of an epidemic, however, needed drugs are shipped directly to the affected area by the fastest possible means of transportation.

MINUTES OF THE MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

BOARD OF TRUSTEES MEETING

April 27, 1952

The Board of Trustees of the Iowa State Medical Society met at Hotel Fort Des Moines Sunday, April 27, 1952, with the following persons present: Drs. Robert N. Larimer, Lonnie A. Coffin, John W. Billingsley, Ransom D. Bernard, Allan B. Phillips and N. Boyd Anderson.

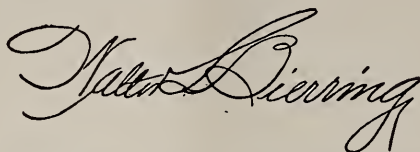
The Trustees discussed Dr. Bernard's bill for his trip to the Blue Cross meeting in San Francisco and finally voted to sign his voucher but he is to recover the railroad fare from Blue Cross. The Trustees also voted that the first payment on the new building can be paid on the authorization of the secretary and treasurer without having to go to the Trustees first.

April 30, 1952

The Board of Trustees met at Hotel Fort Des Moines Wednesday morning, April 30, following the House of Delegates meeting. Present were Dr. Larimer, retiring member, Dr. Coffin, Dr. Billingsley and Dr. Wendell L. Downing of Le Mars, new Trustee. Dr. Larimer bade farewell to the board and left the meeting.

Dr. Coffin was elected Chairman for the coming year. The Board voted that the overhead cost of the Grinnell postgraduate course be refunded; that the State Society should pay the cost of the president's and president-elect's rooms at the annual meeting; that Dr. Coffin should sign all routine bills; that the office need not be kept open on Saturdays during the summer; and that a letter be sent to the *Register* thanking it for its coverage of our meeting. May 18 was chosen as the next meeting date and the meeting adjourned at 9:15 a. m.

STATE DEPARTMENT OF HEALTH



USE OF SEROLOGIC TESTS IN THE DIAGNOSIS OF SYPHILIS

Since the development of the Serology Division of the Laboratory in 1918, the demand for free service initiated July 1, 1937, has shown a progressive increase. This increase is due to the awareness of the medical profession of the need for this service as a part of every physical examination. The demand for service was further increased by legislative action requiring all expectant mothers (July 4, 1939) and applicants for marriage (April 10, 1941) to have a serologic test for the detection of syphilis. During the calendar year 1951 this division examined 262,753 specimens for evidence of syphilis. On this number of specimens 532,142 tests were carried out.

The laboratory has decentralized this work in some respects in that 23 private, hospital and municipal laboratories were appraised and approved to perform serologic tests for syphilis during the calendar year 1951. During this period 21 technicians from various laboratories in the state received special serologic training in this division.

SEROLOGIC TESTS PERFORMED AT THE STATE HYGENIC LABORATORY FOR DIAGNOSIS OF SYPHILIS

Specimens are tested by the standard Kline precipitation and an oversensitive single tube complement fixation test. All specimens negative to these tests are screened out and reported, whereas, specimens reacting to one or both screening tests are tested quantitatively by the Venereal Disease Research Laboratory (V.D.R.L.) test and the Kolmer complement fixation tests. Thus every specimen has the advantage of being tested by a precipitation and a complement fixation test.

The Filter Paper Microscopic (F.P.M.) test is carried out on blood of congenital luetic infants when whole blood specimens are not available for testing.

Participation of the Serology Division in the National Evaluation Studies conducted by the U. S. Public Health Service has taken place annually with gratifying results.

Results of serologic tests are objective findings and do not supply a diagnosis. Serologic tests for syphilis in universal use are not specific, in that a non-specific antigen is used, hence the test results must be interpreted in the light of a careful detailed history and clinical findings. Specific tests

will not be available until satisfactory spirocheta pallida antigens and practical technics are developed. The treponema pallidum immobilization (T.P.I.) test as developed by Nelson is purely experimental, has not been adequately standardized, or adopted by the National Advisory Serology Council on Syphilis.

INTERPRETATION OF THE QUANTITATIVE SEROLOGIC TITRE

The interpretation of quantitative serologic titres following treatment presents a problem to the practitioner. In the absence of clinical evidence of reinfection or mucocutaneous relapse, the serologic titre trend must be relied on as the diagnostic tool in determining the presence of a serologic relapse or sero-resistance. These types of treatment failures may be indicated by:

(1) An initially falling titre, approaching negativity, soon after treatment, subsequently followed by a titre rise of two or more dilutions confirmed and maintained over a two month period, or

(2) A constant titre of 1:4 dilutions or more which is maintained over a period of two to six months following treatment and exhibits little or no tendency to approach negativity.

It must be remembered that complete serologic reversal to negativity following treatment will depend to a large degree on the duration of the infection. In early syphilis, the serologic reversal toward negativity should be accomplished within six to 18 months following completion of therapy. Latent syphilis cases on the other hand seldom reach complete negativity, but will attain a relatively low level of positivity (1:4 or less) and remain constant. This does not constitute a treatment failure and is not sufficient evidence within itself to indicate need for retreatment. Spinal fluid examinations in such cases are indispensable for proper evaluation.

BIOLOGIC FALSE POSITIVE REACTIONS

Biologic false positive (B.F.P.) or non-specific reactions are occasionally encountered which are a source of difficulty not only for the physician and patient but the laboratory worker as well. Such reactions are usually associated with a disturbance of the serum gamma globulin such as a hyper gamma globulinemia. B.F.P. reactions occur most commonly with the precipitation tests such as the

Kline, Kahn and V.D.R.L. in which case fluctuation degrees of positiveness are noted on periodic testing. Complement fixation tests such as the Kolmer are less susceptible to non-specific influences. Hence many clinicians and syphilologists place most reliance on the Kolmer. However, cost of performing a standard Kolmer test routinely on all sera is prohibitive in most laboratories.

When positive serologic findings are not substantiated by detailed history and physical examination, the patient, with rare exceptions, should be left untreated and repeated physical and serologic examinations carried out for several months at monthly or shorter intervals. Biologic false positive tests occur with all standard tests carried out by the most skilled workers and should be strongly suspected, if:

(1) The serologic tests remain weakly positive or doubtful on periodic testing.

(2) The precipitation tests (Kline, Kahn and V.D.R.L.) show varying degrees of positiveness or repetition while the complement fixation test (Kolmer) remains negative.

(3) On repeated testing there is a decline in titre, without specific therapy.

Occasionally unbelievable high quantitative titres of short duration are encountered which are proven to be biologic false positive.

B.F.P. tests are most commonly encountered during spirochetal infections such as rat bite fever, relapsing fever, yaws and Weil's disease; during leprosy, malaria, allergic states, tuberculosis, pneumococcus pneumonia, infectious mononucleosis, high protein intake as in pregnancy; and during or following viral pneumonia, influenza, infectious hepatitis, measles, mumps, granuloma venereum, trichinosis and vaccine prophylaxis particularly vaccinia.

Since it may be disastrous to stigmatize patients as syphilitic, treatment should be withheld tentatively in the absence of reasonable clinical proof of infection. Exceptions to this general rule are during pregnancy where the welfare of a fetus is at stake and in selected cases where high titres persist at least six months.

REFERENCES

1. Stokes, John H.: Non-specific reactions in routine blood testing for syphilis. JAMA, 130:57 (Jan. 12) 1946.
2. Premarital examinations for syphilis, Editorial. JAMA 139:310-311 (Jan. 29) 1949.
3. Curtis, Arthur C.: Penicillin treatment of syphilis. JAMA, 145:1223 (April 21) 1951.

FUNCTIONS OF THE BUREAU OF DENTAL HYGIENE, IOWA STATE DEPARTMENT OF HEALTH, IOWA CITY

The Bureau of Dental Hygiene, with headquarters in Iowa City, is a joint educational project of the Iowa State Department of Health and the State University of Iowa. It has been in existence since 1927.

The dental health program is known as the Iowa

Plan for Dental Health Education and is based on the principles of education, prevention and correction. Educationally, the objective is to develop material which is sound and to make this material available to the classroom teacher. The preventive point of view is emphasized through home participation in a routine program of dental hygiene and dietary habits. The corrective phase is stressed through the use of the dental card, which brings about systematic and regular examination in the dental office where completion of the necessary work is recommended. The program is geared to participation by the parent, the child, the classroom teacher, the nurses and the family dentist. The cooperation of all is essential to the success of the program. The tools provided are the dental card, the classroom record, the *Handbook of Dental Health Education for the Elementary Teacher*, other educational materials and visual aids. The teacher does the direct teaching in the classroom.

The means employed to effect participation in the program are these:

All town, public and parochial, and county superintendents are contacted by mail three times a year either by letter or double postal card, urging them to participate in the program. As far as possible, personal visits are made. A report form is sent in May to those superintendents, town and county, whose schools are active in the program. A school is considered active if the dental cards are used and dental health taught in the classroom.

School, rural public health nurses and Visiting Nurse Association directors receive the same communications sent to the superintendents.

The county dental health committeemen of the Iowa State Dental Society also receive such information and in February a report is sent to them as to the record of activity. Some of the dental health committeemen really do personal work on the program. All dentists in the state receive copies of the fall bulletin and so are informed as to the program.

As far as our limited personnel permits, field visits are made to the public health personnel in the state, school administrators, elementary school supervisors and county dental health committeemen. It has only been possible to make field trips to the nurses once every two years. Supervisory nurses serve in the intervening time. Since there are only five supervising nurses, large areas of the state do not have the benefit of such service. Our service, as a result, is very diluted. Supervising nurses and other public health nurses are encouraged through staff educational meetings and personal conferences. Meetings are also held with the nurse students and the senior dental students to familiarize them with the Iowa Plan for Dental Health Education and their responsibility in improving the dental health of the citizenry.

SCHOOL PERSONNEL

Direct service is given to teachers at rural teachers institutes, group meetings in town schools and at the summer sessions of colleges. Because of personnel problems, little such service was given last year. We hope to resume it this year for it is an area which will produce the best results in an overall program. Stress is placed on the use of the *Handbook*, and attention is called to other educational materials and their source. Assistance is also given the director of the division in the pre-fluoridation surveys now in progress in the state.

EVALUATION OF PROGRAM

Two measuring rods have been used; one, the percentage return in dental cards and the other, the examination of the high school students in 25 counties of the state.

PERCENTAGE RETURN IN DENTAL CARDS
IN THE YEARS

| | 1941-42 | 1949-50 | 1950-51 |
|---|---------|---------|---------|
| Number of dental cards distributed (Pupils represented in reports received) | 68,858 | 161,464 | 161,160 |
| Number of dental cards returned | 22,920 | 85,958 | 86,289 |
| Percentage of return | 31.8% | 53.2% | 53.5% |

While emphasis is not placed on a 100 per cent return but upon improving the record of the previous year, 318 town school rooms and 222 rural schools attained the 100 per cent goal last year.

In the 1950-51 school year, the rural schools in 88 counties, 458 town and 96 parochial schools used the dental cards. It is most significant that orders are received each year for approximately 30,000 elementary dental cards, 50,000 high school cards, 7,000 classroom records and 3,000 handbooks and that these are paid for by the school administration. The dental health program in the schools of Iowa has become an accepted part of the health program. Many schools have had a continuous program for 20 or more years.

Much of the credit for the success of the program belongs to the school, rural public health nurses and the Visiting Nurse Association nurses, who are guided by the personnel of the Bureau of Dental Hygiene and other State Department of Health personnel. Through their efforts, more than 65,000 individuals are reached in the course of the year.

The reports from the school and rural public health nurses show that emphasis in the preschool area is increasing and that more preschool children are visiting the dentist than heretofore.

The work of the personnel of the Bureau of Dental Hygiene is directed toward an improvement of the dental condition of the preschool and the school children of the state by means of an organized and supervised educational program.

MORBIDITY REPORT

| DISEASES | APR. 1952 | MAR. 1952 | APR. 1951 | MOST CASES REPORTED FROM: |
|---------------------|--------------|--------------|--------------|--|
| Diphtheria | 1 | 2 | 0 | Black Hawk |
| Typhoid Fever ... | 2 | 0 | 0 | Decatur, Scott |
| Scarlet Fever | 116 | 145 | 52 | Clinton, Dubuque, Des Moines |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 758 | 908 | 530 | Black Hawk, Jasper, Shelby, Sioux, Hamilton |
| Whooping Cough . | 7 | 16 | 22 | Des Moines, Polk |
| Brucellosis | 31 | 27 | 31 | Cerro Gordo 9, Linn 2, others 1 to a county |
| Chickenpox | 191 | 406 | 441 | Black Hawk, Boone, Johnson, Linn |
| Meningitis, men .. | — | 5 | 5 | ..... |
| Mumps | 320 | 513 | 321 | Black Hawk, Buena Vista, Clinton |
| Pneumonia | 8 | 10 | 7 | Henry, Polk, Winnebago |
| Polioomyelitis | 4 | 3 | 7 | Jackson, Johnson, Muscatine, Polk, 1 each |
| Rabies in Animals | 21 | 19 | 46 | Clinton, Kossuth, Linn, Sac, Story, 2 cases each, others scattered 1 to a county |
| Tuberculosis | 87 | 52 | 56 | For the state |
| Gonorrhea | 37 | 42 | 35 | For the state |
| Syphilis | 108 | 183 | 127 | For the state |

EDITORIALS

(Continued from page 269)

public, which also is vitally interested in medical progress, will be able to see first hand what is happening at the American Medical Association's One Hundred and First Annual Meeting, June 9 to 13 in Chicago.

Present arrangements call for two half-hour programs to be televised on June 10 and 11. As the nation's top medical authorities report on the latest developments in the field of science and medicine to approximately 14,000 colleagues attending the meeting, mobile television cameras will transmit the news to the rest of the nation. The telecasts are being sponsored by Smith, Kline and French, a Philadelphia pharmaceutical firm.

The Presidential Inaugural Address of Dr. Louis H. Bauer will be broadcast nationwide Tuesday evening, June 10, originating from the grand ballroom of Chicago's Palmer House.

If you are planning to attend the meeting, plan to take advantage of the new guided tour service at AMA headquarters. Here is a chance to see your Association firsthand. This service will be available during the AMA Annual Session and all attending the convention are invited to visit 535 North Dearborn Street. This tour program is to be a permanent AMA service. Be sure to send in your hotel reservation at once.

JULY JOURNAL

The July *Journal of the Iowa State Medical Society* will be the annual official issue. This issue will contain the Transactions of the House of Delegates in their meeting at the 1952 Annual Meeting in Des Moines and a Roster of Members of the State Society. Any changes or additions to the Roster should be sent to the *Journal*, c/o the Central Office prior to June 7.

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chestnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

THE 1952 ANNUAL MEETING

Several facts were brought out which, it is hoped, will make our Iowa Academy a more important organization to the general practitioners of the State. Those to be elaborated here are in regard to: 1. memberships and 2. a reorganization plan.

MEMBERSHIPS

The Academy of General Practice has established its worth as an organization. But the general practitioners of Iowa must realize this is their very own medical group. It is operated by and for the general practitioners. At the Annual Meeting our attention was drawn to the fact that many doctors have just neglected to join. This reflects against those of us who have not asked them. We would like to have every general practitioner in Iowa belong to the Academy. The requirements are not too much to ask of any progressive doctor when explained to him. The cost is not prohibitive and the gains to the individual surpass the investment many fold. Besides those factors, the activities of the Academy cannot help but affect every practitioner in the State. Since the Academy is recognized by the AMA, it is fast becoming the mouthpiece of the majority of the doctors of the nation, as well as the State, so every general practitioner should be a member to have a voice in policies laid down as well as the status of membership. It is our desire to represent *you* and *you* and *you*, but we ask you to belong. On all levels it is our desire and purpose to co-operate with the national, state and county societies, and this situation in our State is exemplified by the interlocking of committee functions between the State society and the Iowa Academy. Dr. Whitaker, President of the Iowa State Medical Society, is anxious for us to make a success of the new preceptorship plan; thus the General Practice Committee of the State Medical Society is chosen from members of the Academy. This is important work.

At the Annual Meeting a spot map was presented to show where our memberships are in the state.

This revealed many towns with no members and many with inadequate representation. As soon as possible, the Secretary will send out a membership list by towns and counties to all members. Preserve this and use it to speak to your colleagues who *are not*, but *should be*, members.

This year, if some of you care to arrange it, we of your officers will visit a meeting of the G.P.'s in your area and explain to them what the Academy is, what it has done and what it expects to do, in an endeavor to get those present to become members.

This page in the next issue will carry a complete elaboration of membership classifications and dues for each one. There is a classification for everyone.

RE-ORGANIZATION

Your officers feel that our Iowa Academy has outgrown its original organization plan and that changes should be made to give more members an opportunity to voice their opinions and help in carrying out our plans and projects. This will require changes in our Constitution and By-laws which have to be set up, approved by the American Academy and published to all members 90 days before the 1953 Annual Meeting. It is hoped to set up districts with representatives to meet with the Officers, Directors, Trustees, Delegates to A.A.G.P. and heads of standing committees in some sort of a General Council. This will give all of you an official representative close to you, where your ideas can be registered and brought before the Council for consideration. The President, Dr. Fellows, was empowered to appoint a committee to study such changes and to work with the regular Committee on Constitution and By-laws to set up the new machinery for presentation next year.

Our Academy is growing in prestige and responsibilities. This must be adequately shared by all of our members. We must keep our organization democratic. If any of you members are asked to serve on committees, please do so whole-heartedly and actively. This is your Academy.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

ELEMENTARY MEDICAL STATISTICS. The Principles of Quantitative Medicine, by *Donald Mainland*. M.B., Ph.D., D.Sc., F.R.S.E., F.R.S.C., Professor of Medical Statistics, Division of Medical Statistics, the Department of Preventive Medicine, New York University College of Medicine. W. B. Saunders Co., Philadelphia, 1952. Price \$5.00.

THE FIGHT AGAINST TUBERCULOSIS, An Autobiography by *Francis M. Pottenger*, with an introduction by *Roy G. Hoskins*, M.D. Henry Schuman, Inc., New York, 1952. Price \$4.00.

PRINCIPLES OF REFRACTION, by *Sylvester Judd Beach*, A.B., M.D., F.A.C.S., Consultant, Staff Maine Eye and Ear Infirmary; Chief Ophthalmologist, Portland City Hospital. C. V. Mosby Co., St. Louis, 1952. Price \$4.00.

SURGICAL GYNECOLOGY, Including Important Obstetric Operations, by *J. P. Greenhill*, M.D., Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Attending Obstetrician and Gynecologist, Michael Reese Hospital. The Year Book Publishers, Inc., Chicago, 1952. Price \$8.50.

SURGICAL FORUM, Proceedings of the Forum Sessions of the 1951 Clinical Congress of the American College of Surgeons. W. B. Saunders Co., Philadelphia, 1952. Price \$10.00.

A TEXTBOOK OF PHARMACOLOGY, Principles and Applications of Pharmacology to the Practice of Medicine, by *William T. Salter*, M.D., Professor of Pharmacology, Yale University School of Medicine. W. B. Saunders Co., Philadelphia, 1952. Price \$15.00.

BOOK REVIEWS

THE 1951 YEARBOOK OF PEDIATRICS (Julv, 1950-July, 1951), edited by *Henry G. Poncher*, M.D. with the collaboration of *Julius B. Richmond*, M.D. (The Year Book Publishers, Inc., Chicago, \$5.00).

This book digests articles on the premature and the newborn, nutrition and metabolism, gastro-intestinal, genito-urinary and respiratory tracts, infectious diseases and immunity, allergy, poliomyelitis, tuberculosis, heart and blood vessels, blood, endocrinology, orthopedics, dermatology, otolaryngology, ophthalmology, neurology and psychiatry and therapeutics and toxicology.

Frequent comments are made by the editors to aid the reader in evaluating the significance of articles. Also, the journal from which the article is reviewed is mentioned in the footnotes so that the reader may refer to the original article.

Needless to say this is an excellent review of the year's progress in pediatrics.—*H. H. Corn, M.D.*

A TEXTBOOK OF CLINICAL NEUROLOGY With an Introduction to the History of Neurology, by *Israel S. Wechsler*, M.D. (W. B. Saunders Co., Philadelphia, \$9.50).

This is the seventh edition of a textbook of neurology that has been a favorite of medical school professors for many years. It has been enlarged and brought up to date again.

For those not specializing in neurology, the first 100 pages will serve as a timely refresher course in

methods of examination of neurological patients. A brief description of the Rorschach, the Goldstein-Scheerer and other psychological diagnostic tests, is included for general information. A short chapter, "The Sciatic Syndrome and Herniated Disc" is particularly useful in helping the physician orient himself regarding this confusing syndrome. Of special interest to the reviewer is a chapter devoted to the autonomic nervous system, with speculation as to the role played by the endocrines in autonomic syndromes.

This text is highly recommended as a thorough and reliable reference book to answer almost any question that might arise over the diagnosis and management of neurological problems.—*A. G. Lueck, M.D.*

A HISTORY OF NEUROLOGICAL SURGERY, edited by *A. Earl Walker*, M.D. (The Williams and Wilkins Co., Baltimore, Md., \$12.00).

This comprehensive monograph is the result of a series of seminars on the development of surgery of the nervous system presented by the members of the Division of Neurological Surgery, Johns Hopkins University in 1949-50. Twelve observers, assisted by Dr. Walker, have compiled a vast amount of research in depicting a review of various phases in this specialty and have recorded the growth of a young member in a surgical family with deference to its heritage.

The delineation of development with definite attention to advances in individual problems, such as the treatment of head injuries, brain tumors, lesions of the spinal cord, relief of pain by selective section of appropriate nerve roots, surgery of the spinal cord, therapy of congenital anomalies, epilepsy or advances in the surgical approach upon the sympathetic nervous system and psychosurgery are well described.

This volume presents, with a well restrained conception of the individual's feats and foibles, a brief biography of some pioneers, such as Cushing, Dandy, Krause, Horsley, Peet, MacEwen and others. There are also excerpts from old and modern references in neurology at the end of the chapters. This volume is replete with illustrations of old cuts showing advancing technics in all phases of the specialty.

It is a book which should be considered a necessity to the student of neurology, neurosurgery and neuropathology, and to the medical historian, an irreplaceable volume in his collection.—*W. D. Abbott, M.D.*

POSTURE AND PAIN, by *Henry O. Kendall*, *Florence P. Kendall* and *Dorothy A. Boynton* (The Williams and Wilkins Co., Baltimore, \$7.00).

The authors of this text have explained the importance of postural faults in painful and disabling conditions. There is an abundance of excellent illustrations to enhance the text. In these days of television slouch all physicians would do well to include this book in their library, the better to understand the importance of normal posture.—*E. M. George, M.D.*

SOCIETY PROCEEDINGS

MEETINGS

Blackhawk

The regular meeting of the Blackhawk County Medical Society was held April 15 at the Elk's Club in Waterloo. Dr. Guy W. Daugherty of the Department of Internal Medicine of the Mayo Clinic, discussed "Current Treatment in Coronary Diseases."

Cass

The Cass County Medical Society held a special afternoon and evening program on May 14 at the Atlantic Country Club for physicians of Southwest Iowa. The program consisted of discussions and presentations of papers by Drs. Charles F. Lowry and John P. Cogley of Council Bluffs; Wilbur A. Muehlig and Leon S. McGoogan of Omaha, Nebr. and P. R. Lipscomb and O. H. Beahrs of Rochester, Minn.

Clinton

The Clinton County Medical Society met April 15 at the Clinton Country Club. Mr. H. W. Ginty, Vice Chairman of the Medical Protective Company, Ft. Wayne, Ind., spoke on "The Doctor and The Law."

Dubuque

Members of the Dubuque County Medical Society met April 8 at the Elk's Club in Dubuque. Dr. T. Lyle Carr of the SUI Department of Internal Medicine, lectured and presented slides on the subject, "The Need to Classify the Myedematous State."

Louisa

The Louisa County Medical Society observed its Centennial Anniversary April 24 at a banquet for members and their wives in Wapello. Speakers were Dr. Lonnie A. Coffin, State Society Trustee and Dr. Carl J. Johmann, of Burlington, State Health Officer.

Wright

The Eagle Grove doctors recently entertained members of the Wright County Medical Society at a steak dinner at the Eagle Grove Country Club. Following the dinner the subject of "The State Medical Grant to Old Age Pensioners" was discussed.

PERSONALS

Dr. Richard F. Birge, former pathologist at the Iowa Methodist Hospital in Des Moines, has begun the private practice of pathology at 310 Bankers Trust Building in Des Moines.

Dr. John C. McKitterick, Burlington, spoke on "Why Do We Have Spastics?" April 14 at a meeting of the Des Moines County Mental Health Center in Burlington.

Dr. Andrew D. Smith has become associated with **Dr. Robert B. Allen** in Mediapolis. Dr. Smith was graduated from the Washington University School of Medicine, St. Louis, and interned at St. Mary's Hospital, St. Louis.

DEATH NOTICES

Dr. Charles A. Angell, 51, Des Moines physician, died April 13 of a coronary occlusion at his home. He was graduated from Rush Medical College, Chicago in 1931 and took his intern training at Iowa Lutheran Hospital in Des Moines. At the time of his death, Dr. Angell was a member of the Polk County and Iowa State Medical Societies.

Dr. Lou's Herman Heetland, 84, pioneer physician of Sibley and of Osceola County, died April 20 at the Sheldon Memorial Hospital in Sheldon. Born near Ackley, Dr. Heetland was graduated from the Michigan College of Medicine and Surgery in 1895. Dr. Heetland was a life member of the Osceola County and Iowa State Medical Societies.

Dr. Herbert Marc Huston, 82, physician of Ruthven and of Palo Alto and Clay Counties for 58 years, died April 21 at his home in Ruthven. Born at Marengo, Dr. Huston was graduated from the State University of Iowa College of Medicine in 1892. At the time of his death, Dr. Huston was a life member of the Palo Alto County and Iowa State Medical Societies.

Dr. Henry Irl McPherrin, 65, Des Moines eye, ear, nose and throat specialist, died April 9 at his home. Dr. McPherrin had been ill since 1949, when he was forced to retire because of a heart ailment.

Dr. McPherrin was graduated from the Drake University Medical School in 1912. At the time of his death, Dr. McPherrin was a life member of the Polk County and Iowa State Medical Societies.

Dr. Asa O. Wyland, 85, Underwood physician, died April 12 in a Council Bluffs hospital after an illness of several years. Born in Harlan, Dr. Wyland was graduated from the State University of Iowa College of Medicine in 1889. At the time of his death Dr. Wyland was a life member of the Pottawattamie County and Iowa State Medical Societies.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of May 10, 1952

- | | |
|--|---|
| Ackerman, J. H., Clarksville (Tallahassee, Fla.) ...Senior, Asst. Surg., U.S.P.H.S. | Keil, P. G., Des Moines (Bangor, Me.) .....Major, U.S.A.F. |
| Alberts, M. E., Des Moines (Seattle, Wash.) .....Lt., U.S.N.R. | King, R. E., Des Moines (APO San Francisco, Calif.) .....Capt. A.U.S. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) .....Major, A.U.S. | Krause, R. E., Ottumwa (Camp Atterbury, Ind.) .....1st. Lt., A.U.S. |
| Bartholomew, R. D., Lake City (Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R. | Kruse, R. H., Conrad (Pearl Harbor, T. H.) .....Lt., U.S.N.R. |
| Bartley, R. L., Sully (FPO San Francisco, Calif.) .....Lt., U.S.N.R. | Kurth, R. J., Waterloo (Panama City, Fla.) .....Capt., U.S.A.F. |
| Benge, D. K., Dows (APO San Francisco, Calif.) .....1st Lt., U.S.A. | Landis, S. N., Des Moines (Shreveport, La.) .....Major, U.S.A.F. |
| Braatlien, N. T., Des Moines (Camp Carson, Colo.) .....1st. Lt., U.S.A.F. | Leiter, E. R. K., Des Moines (Bangor, Me.) .....Capt., U.S.A.F. |
| Brown, R. C., Mason City (Kansas City, Kan.) .....1st. Lt., A.U.S. | McCrary, W. A., Lake City.....Capt., A.U.S. |
| Camp, J. R., Thompson (FPO San Francisco, Calif.) .....Lt., U.S.N.R. | Mangan, J. T., Forest City (San Diego, Calif.) .....Lt. (j.g.), U.S.N.R. |
| Carson, R. W., Winterset (APO San Francisco, Calif.) .....1st. Lt., A.U.S. | Merkel, B. M., Des Moines (Bangor, Me.) .....Col., U.S.A.F. |
| Coyne, K. M., Burlington (FPO San Francisco, Calif.) .....Cmdr., U.S.N.R. | Mitchell, R. C., Iowa City (Yorktown, Va.) .....Lt., U.S.N.R. |
| Dalager, R. D., Ottumwa (Annapolis, Md.) .....U.S.N.R. | Montgomery, A. E., Jefferson (APO San Francisco, Calif.) .....Lt. Col., A.U.S. |
| Davidson, M. C., Emmetsburg (APO New York, N. Y.) .....Col., A.U.S. | Mulder, L., Sioux Center (Sioux Falls, S. D.) .....Capt., U.S.A.F. |
| David, S. K., Des Moines (Seattle, Wash.) .....Lt., U.S.N. | Neagle, P. E., Dubuque (APO San Francisco, Calif.) .....1st. Lt., A.U.S. |
| Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.) .....1st. Lt., U.S.A.F. | Nicholson, R. W., Paton (APO Seattle, Wash.) .....1st. Lt., A.U.S. |
| Dooley, J. E., Fort Dodge.....A.U.S. | Nordin, C. A., Des Moines (Lackland Field, Texas) .....1st. Lt., U.S.A.F. |
| Fitch, R. E., Des Moines (Bangor, Me.) .....1st. Lt., U.S.A.F. | Odell, J. E., Iowa City (Seattle, Wash.) .....Lt., U.S.N. |
| From, Paul, West Des Moines (San Antonio, Texas) .....1st. Lt., U.S.A.F. | Ruble, R. L., Nevada (Camp Chaffee, Ark.) .....A.U.S. |
| Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) .....U.S.A.F. | Saunders, R. J., (Colfax) (Montgomery, Ala.) .....1st. Lt., U.S.A.F. |
| Greco, D. J., Des Moines (APO San Francisco, Calif.) .....1st. Lt., A.U.S. | Schultz, M. H., Waterloo.....Capt., U.S.A.F. |
| Gustafson, J. E., Des Moines (Far East Command) .....1st. Lt., A.U.S. | Shaffer, F. J., Iowa City.....Col., U.S.A.F. |
| Jensen, K. V., Newton (San Antonio, Texas) .....1st. Lt., U.S.A.F. | Simonsen, M. N., Sioux City (Oakland, Calif.) .....Lt. Cmdr., U.S.N.R. |
| Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) .....1st. Lt., U.S.A.F. | Smith, C. B., Iowa City (Fort Jackson, S. C.) .....Capt., A.U.S. |
| Johnson, F. N., Madrid (San Antonio, Texas) .....1st. Lt., U.S.A.F. | Stutsman, R. E., Washington (Miami, Fla.) .....Cmdr., U.S.N. |
| Johnson, M. H., Iowa City (Tacoma, Wash.) .....Capt., A.U.S. | Tempel, P. F., Steamboat Rock (APO San Francisco, Calif.) .....Capt., A.U.S. |
| Johnstone, A. A., Keokuk .....Col., U.S.A.F. | Thistlewaite, E. A., Des Moines (Riverside, Calif.) .....1st. Lt., U.S.A.F. |
| | Thomas, J. H., Rock Rapids (APO San Francisco, Calif.) .....Capt., U.S.A.F. |
| | Tice, W. K., Iowa City (Kansas City, Kan.) .....1st Lt., A.U.S. |
| | Tyler, D. E., Shenandoah (Great Lakes, Ill.) .....U.S.N.R. |
| | Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) .....Capt., U.S.A.F. |
| | von Lackum, L. S., Oelwein (Great Lakes, Ill.) .....Lt., U.S.N.R. |
| | Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) .....Lt., U.S.N.R. |
| | Walz, D. V., Le Mars (Sioux Falls, S. D.) .....1st. Lt., U.S.A.F. |
| | Wehrmacher, W. H., Iowa City (Oceanside, Calif.) .....U.S.N.R. |
| | Wiedemeier, J. L., Sioux City (Ft. Sam Houston, Texas) .....1st. Lt., A.U.S. |
| | *Wilkins, D. S., Iowa City (APO San Francisco, Calif.) .....Capt., A.U.S. |
| | Witte, H. J., Marathon (San Francisco, Calif.) .....Lt. Col., A.U.S. |
| | Woolfolk, J. H., II, Waterloo (Weaver, S. D.) .....U.S.A.F. |
| | Zeilenga, R. H., Orange City (Madison, Wisc.) .....1st. Lt., U.S.A.F. |

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1952-1953

President Ben T. Whitaker, Boone
 President-Elect..... Robert N. Larimer, Sioux City
 First Vice President..... Elias B. Howell, Ottumwa
 Second Vice President..... Lester C. Kern, Waverly
 Secretary..... Allan B. Phillips, Des Moines
 Treasurer..... N. Boyd Anderson, Des Moines

Term
 Expires
 ALTERNATE DELEGATES TO A. M. A.

Frank G. Ober, Burlington..... January 1, 1955
 Ernest M. Kersten, Fort Dodge..... January 1, 1953
 Donovan F. Ward, Dubuque..... January 1, 1954

COUNCILORS

Term
 Expires

First District—Cluley C. Hall, Maynard.....1955
 Second District—Charles H. Cretzmeyer, Algona.....1953
 Third District—Matthew T. Morton, Estherville.....1954
 Fourth District—Paul W. Brecher, Storm Lake.....1955
 Fifth District—Ernest M. Kersten, Fort Dodge.....1954
 Sixth District—Otis D. Wolfe, Marshalltown.....1955
 Seventh District—Harold A. Housholder, Winthrop.....1953
 Eighth District—Clyde A. Boice, Washington, Secretary..1954
 Ninth District—Elias B. Howell, Ottumwa.....1953
 Tenth District—Ivan K. Sayre, St. Charles.....1954
 Eleventh District—Oscar Alden, Red Oak.....1955

TRUSTEES

Lonnie A. Coffin, Farmington, Chairman.....1953
 John W. Billingsley, Newton.....1954
 Wendell L. Downing, LeMars.....1955

DELEGATES TO A. M. A.

Term
 Expires

George Braunlich, Davenport..... January 1, 1955
 Julian E. McFarland, Ames..... January 1, 1953
 Gerald V. Caughlan, Council Bluffs..... January 1, 1954

EXECUTIVE COUNCIL

Ben T. Whitaker, Chairman.....Boone
 Robert N. Larimer.....Sioux City
 Allan B. Phillips.....Des Moines
 N. Boyd Anderson.....Des Moines
 Lonnie A. Coffin.....Farmington
 John W. Billingsley.....Newton
 Wendell L. Downing.....LeMars
 Cluley C. Hall.....Maynard
 Charles H. Cretzmeyer.....Algona
 Matthew T. Morton.....Estherville
 Paul W. Brecher.....Storm Lake
 Ernest M. Kersten.....Fort Dodge
 Otis D. Wolfe.....Marshalltown
 Harold A. Housholder.....Winthrop
 Clyde A. Boice.....Washington
 Elias B. Howell.....Ottumwa
 Ivan K. Sayre.....St. Charles
 Oscar Alden.....Red Oak
 George Braunlich.....Davenport
 Julian E. McFarland.....Ames
 Gerald V. Caughlan.....Council Bluffs

THE JOURNAL

Everett M. George.....Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

Ben T. Whitaker, Chairman.....Boone
 Robert N. Larimer.....Sioux City
 Allan B. Phillips.....Des Moines
 N. Boyd Anderson.....Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City
 Henry C. Scharnweber.....Boone
 Floyd M. Burgeson.....Des Moines

GRIEVANCE COMMITTEE

Term
 Expires

Leo C. Kuhn, Decorah.....1954
 Leslie W. Swanson, Mason City.....1953
 Thomas L. Ward, Arnolds Park.....1954
 John W. Bushnell, Sioux City.....1953
 Lester D. Powell, Des Moines.....1954
 S. Dale Porter, Grinnell.....1953
 Joseph W. Lawrence, Dubuque.....1954
 Elmer A. Larsen, Centerville.....1954
 Lester E. Hooper, Indianola.....1953
 Charles H. Flynn, Clarinda.....1954

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines
 John W. Billingsley.....Newton
 John D. Conner.....Nevada
 Ben T. Whitaker.....Boone
 Allan B. Phillips.....Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Donald C. Conzett, Chairman.....Dubuque
 F. Harold Entz.....Waterloo
 Lee F. Hill.....Des Moines
 John H. Randall.....Iowa City
 George H. Scanlon.....Iowa City

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines.....1953
 Loren K. Meredith, Des Moines.....1955
 Eugene F. Van Epps, Iowa City.....1954

COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman.....West Des Moines

Insurance

Martin I. Olsen.....Des Moines

Public Information—Doctor-Patient Relationships

Otto N. Glesne, Chairman.....Fort Dodge
 Donovan F. Ward.....Dubuque
 Cecil W. Seibert.....Waterloo
 Edward H. Files.....Cedar Rapids
 William M. Sproul.....Des Moines

Veterans' Affairs

Roy C. Gutch.....Chariton

Allied Professions

James E. Reeder, Chairman.....Sioux City

John B. Thielen.....Fonda
Eugene Smith.....Waterloo

Labor and Industry

Tom D. ThrockmortonDes Moines

Hospital and Professional Relations

Callistus H. Stark, Chairman.....Cedar Rapids
Ernest M. Kersten.....Fort Dodge
Gordon F. Harkness.....Davenport
Richard F. Birge.....Des Moines
Charles T. Maxwell.....Sioux City
Arthur W. Erskine.....Cedar Rapids
Nathaniel G. Alcock.....Iowa City

Relief and Health Agencies

Frank D. McCarthy, Chairman.....Sioux City
Social Welfare—Channing Smith.....Granger
TB and Heart—Ralph E. Smiley.....Mason City
Polio—Don H. Penly.....Cedar Falls
Crippled Children, Cancer, Red Cross, Women's Clubs,
AAUW, etc.—John C. De Meulenaere.....Grinnell

Health Education

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—

John D. Conner.....Nevada
Henry C. Scharnweber.....Boone
John J. Shurts.....Eldora

Industrial Health

Raymond F. Frech, Chairman.....Newton
Howard H. Smead.....Des Moines
Stanley T. Moen.....Cedar Rapids
Christian B. Luginbuhl.....Des Moines
Harold A. Spillman.....Ottumwa
Carl J. Lohmann.....Burlington
Leo J. Miltner.....Davenport
Harry A. Amesbury.....Clinton

Rural Health

Dwight G. Sattler, Chairman.....Kalona
Elmer A. Larsen.....Centerville
Bruce F. Howar.....Webster City
James M. Tierney.....Carroll
Robert S. Jaggard.....Oelwein

Geriatrics

Charles V. Edwards.....Council Bluffs

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmund F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Iowa City
J. Donald Hennessy.....Council Bluffs
Richard F. Birge.....Des Moines

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Joseph G. Fellows, Chairman.....Ames
Cecil V. Hamilton.....Garner
J. Stewart Jackson.....Mount Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids
Marcus B. Emmons.....Clinton
Charles C. Graves.....Des Moines
William E. Ash.....Council Bluffs
Gerald R. Rausch.....Sioux City

NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

John W. Ferguson, Chairman.....Newton
Edward M. Honke.....Sioux City
Frank G. Ober.....Burlington
William I. Evans.....Sac City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Rubin H. Flocks.....Iowa City
Willard S. Pheteplice.....Davenport

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Willis M. Fowler.....Iowa City
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Ralph E. Smiley, Chairman.....Mason City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
William Spear.....Oakdale

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, JULY, 1952

No. 7

CURRENT TRENDS IN ANTIBIOTIC THERAPY

WALLACE E. HERRELL, M.D.
ROCHESTER, MINN.

In this discussion I hope to consider the newer antibiotics and their uses. However, before doing so, I should like to mention what might be considered older antibiotics. I should like to point out especially that penicillin is still a highly satisfactory, safe and relatively inexpensive antibiotic agent. Any of the infections which previously responded to penicillin still will respond to it, with the exception of the staphylococcal infections. For the latter the newer antibiotics are definitely preferred. That staphylococci possess the ability to develop resistance to penicillin is well recognized by most investigators.

Streptomycin is another example of an older antibiotic, but it is still an effective agent against infections of the blood stream, as well as the urinary tract, where the causative organisms are susceptible to it. Streptomycin is exceedingly effective in the treatment of tularemia and certain forms of tuberculosis, particularly when its use is combined with para-aminosalicylic acid (PAS). There seems to be unjustified apprehension on the part of many clinicians and investigators concerning the toxicity of present-day forms of streptomycin. The preparation of choice for streptomycin therapy at present is dihydrostreptomycin sulfate, which is dispensed in solutions ready for administration. Neurotoxic effects are unlikely to occur if no more than 2 Gm. of dihydrostreptomycin sulfate is given intramuscularly per day for no longer than 12 to 14 days, provided, of course, that the patient has normal renal function. In the absence of any renal damage, 1 Gm. of dihydrostreptomycin sulfate may be administered daily by the intramuscular route for as long as four weeks without fear of a toxic reaction in the eighth nerve. Recent trends, which I shall mention later, amply justify emphasizing the

importance of streptomycin in the field of therapy.

Among the newer antibiotics are chloramphenicol, aureomycin, terramycin, neomycin, the polymyxins, bacitracin and viomycin. This list by no means includes all the antibiotics known to the scientific investigator, but certainly it includes most of those which should concern us at present.

CHLORAMPHENICOL

In addition to its wide range of activity against certain gram-positive and gram-negative organisms, chloramphenicol possesses activity against the rickettsial microorganisms and has proved exceedingly effective in the treatment of murine as well as scrub typhus, Rocky Mountain spotted fever and other important rickettsial diseases. Furthermore, from the beginning it has been and still is the drug of choice in the treatment of typhoid fever. In treatment of the latter infection chloramphenicol is superior to the other two closely related antibiotics: namely, aureomycin and terramycin. Aside from the fact that chloramphenicol is more effective against typhoid fever and some staphylococcal infections, my opinion is that it has no advantage whatsoever over aureomycin or terramycin. I shall briefly give my reasons for this statement.

First, chloramphenicol is not so effective, weight for weight, against certain important microbes as are the other two antibiotics. Second, chloramphenicol does not appear to be excreted in a biologically active form in the bile. In other words, in the treatment of an infection such as cholangitis, the substance is not present in an active form in the biliary tract. Third, large amounts of chloramphenicol are excreted in a biologically inactive form in the urinary tract.

Therefore, in the treatment of biliary infection, as well as in the treatment of infection of the urinary tract, it obviously is not so good an antibiotic as the other two. Finally, chloramphenicol is a nitrophenol compound and has been shown to have a suppressive effect on the bone marrow, fatal aplastic anemia being reported to develop in the patient receiving this antibiotic.¹ I realize that the incidence of suppression of the functional activity of bone marrow is not high, and that the

From the Division of Medicine, Mayo Clinic, Rochester, Minn.

Presented at the 1952 meeting, Iowa State Medical Society, Des Moines, April 28-30, 1952, and at the meeting of the Oklahoma State Medical Association, Oklahoma City, May 19-21, 1952.

development of aplastic anemia is not common. However, I can see no defense for the use of chloramphenicol when aureomycin and terramycin are equally if not more effective, and to date disturbance of the hemopoietic system has not been reported to follow the use of aureomycin and terramycin. I repeat, therefore, that these reasons justify the preference of aureomycin, or terramycin, with only two exceptions, and those are in the treatment of typhoid fever and the occasional staphylococcal infection caused by an organism which is resistant to penicillin, aureomycin and terramycin.

AUREOMYCIN

Aureomycin is an excellent antibiotic. It has a wide range of activity, inhibits the rickettsial microorganisms and has some antiviral activity. The intelligent use of this or any other antibiotic depends not only on knowing something about its antibacterial activity, but also on knowing something about how the antibiotic behaves once it has been introduced into the body. Following the oral administration of 750 mg. of aureomycin, activity of the drug can be demonstrated in the serum of patients for a number of hours. On the other hand, there is a tendency for the concentration of the agent in the blood to begin to decrease six hours after administration of the last dose, and for this reason my colleagues and I² advocate administration of aureomycin every six hours. Some investigators administer it every eight hours. Many clinicians, however, have been giving it every three or four hours. Because of the concentration of the agent in the blood which I have just mentioned, I am convinced that it is not at all necessary to give aureomycin at such short intervals; in other words, no oftener than every six hours.

Antibacterial amounts of aureomycin can be demonstrated in the serum, cerebrospinal fluid, liver, kidneys, spleen and lungs. Furthermore, aureomycin traverses the blood-brain barrier; and when therapeutically effective amounts are present in the blood serum adequate amounts usually will be found in the cerebrospinal fluid. This is of considerable importance in the treatment of infections of the central nervous system, including meningitis and syphilis.

Aureomycin readily traverses the placenta; and when therapeutically effective amounts are present in the serum of the mother's blood, the blood serum of the cord also will contain adequate amounts of the antibiotic. This is of considerable importance in the treatment of infections, including syphilis, in pregnant women.

When therapeutically effective amounts of aureomycin have been administered, the drug diffuses into the pleural space and antibacterial activity can be demonstrated in the pleural fluid. This is of importance in the use of the agent in the

treatment of infections of the pulmonary tree and pleural cavity.

Aureomycin is concentrated in the liver and is excreted in rather large amounts in the bile. It was evident from some of our studies that the quantity of aureomycin in the bile often would be as much as eight to 16 times the amount present in the blood serum. This immediately suggests that aureomycin should be useful in the treatment of infections of the biliary tract.

Large amounts of aureomycin are excreted in the urine. This observation, however, does not always indicate the therapeutic effectiveness of the antibiotic in the treatment of infections of the urinary tract because the antibiotic content of the urine does not actually represent the antibiotic content of the tissue, which is, after all, probably more important.

Opinions differ concerning the proper dose of aureomycin. However, on our services the following schedule usually is followed. For oral administration to adult persons the recommended daily dose is 750 mg. every six hours; for older children, 500 mg. every six hours and for young children and infants, 250 mg. every six hours. A convenient method of administering aureomycin to children is to remove the contents of the capsules and place them in the center of a large spoonful of ice cream or jam. For patients who are critically ill it is recommended that 0.5 Gm. of aureomycin be administered every 12 hours by the intravenous route. The material is dissolved in approximately 100 to 200 cc. of saline solution and is administered rapidly.

Aureomycin should be given by way of the veins of the arm and not the veins of the lower extremity. The continued use of aureomycin is irritating and venous thrombosis may occur, but this complication is of no great significance in the upper extremities.

Space does not permit a detailed discussion of all the clinical applications which aureomycin has enjoyed. It is effective against most gram-positive pyogenic organisms and many gram-negative microbes. Therefore, it has been of clinical importance in the treatment of suppurative lesions, bacteremia, infections of the urinary tract and others. It was evident from some studies reported by my colleagues and me^{3, 4, 5}, that aureomycin is highly effective when given by the oral route in the treatment of syphilis. This includes not only early, darkfield-positive syphilis, but also late syphilis and syphilis of the central nervous system. The syphilologists have noted striking change in the cerebrospinal fluid of patients who have been taking aureomycin for syphilis of the central nervous system.

Aureomycin, when combined with dihydrostreptomycin, has been found by Barber and me^{6, 7} to be exceedingly effective and, in fact, the method of choice in the treatment of brucellosis. In addition to all this, aureomycin is highly

effective in the treatment of the rickettsial diseases, including typhus, Rocky Mountain spotted fever and Q fever. The evidence seems to indicate clearly that aureomycin is of value in the treatment of so-called virus or primary atypical pneumonia. In spite of what was written in some earlier reports, however, aureomycin is not effective against most of the true viruses, such as the virus of herpes, poliomyelitis or influenza. It is my conviction that no patient with a known heart murmur should undergo oral, colonic, rectal or transurethral operative procedures without the benefit of preoperative preparation with either aureomycin or terramycin. The agent should be given for at least 24 hours before the operation and use of it should continue during the post-operative period. If this routine is employed, bacterial endocarditis can be prevented.

It now seems well established that aureomycin is of value in the prevention as well as the treatment of peritonitis. Practically all the organisms which inhabit the intestinal tract are susceptible to the antibiotic activity of aureomycin. It is not surprising, therefore, that most investigators have found aureomycin to be an effective agent in the preoperative preparation of patients who are to undergo operations on the bowel. The recommended dose of aureomycin for this preparation is 750 mg. given orally four times a day for three days. Dearing and Heilman⁸ recommended that it be given at the same time or close to the time when the patient is fed. Also, best results will be obtained when the patients are given aureomycin in conjunction with a low-residue diet. However, intestinal obstruction, fistulas and perforated lesions in the bowel all interfere with the ability of aureomycin to remove all susceptible bacteria when this method of preparation is used. It seems to me that this is a real advance in the control of infection in the postoperative period.

In the treatment of peritonitis, aureomycin has proved of considerable value. Even in the presence of continuous nasal suction we have used aureomycin successfully in the treatment of peritonitis. The practice is to administer 750 mg. through the intranasal tube and to clamp the tube for approximately two hours, during which time absorption will occur. This is repeated four times a day. Likewise, the patient may receive 0.5 Gm. of aureomycin by the intravenous route every 12 hours, as indicated previously. Septicemia caused by most of the organisms present in the intestinal tract has been successfully treated by this method.

Enough evidence seems to have accumulated to lead one to the conclusion that aureomycin, as well as terramycin, is rather active in the treatment of amebiasis. There are those who are of the opinion that the action is indirect; namely, that marked suppression of the intestinal flora causes the amebas to have nutritional deficiency and therefore aureomycin acts in a secondary way. Recent reports, however, indicate that there

is a direct amebicidal action. Regardless of this controversy, the use of aureomycin in large doses seems indicated in the treatment of amebic dysentery.

Although a few reports have suggested that symptomatic improvement in nonspecific ulcerative colitis may follow treatment with aureomycin, in my opinion no conclusive evidence is at hand as yet which would lead to the conclusion that aureomycin is of great value in the treatment of this rather perplexing disease.

The matter of toxicity or untoward reactions, as well as side effects, of aureomycin will be discussed in connection with the toxicity of terramycin.

TERRAMYCIN

Terramycin, like aureomycin, is one of the most important recent developments in antibiotic therapy. It behaves like aureomycin, it has a wide range of antibacterial activity, its use is associated with little or no toxic reaction and its cost is approximately the same as that of aureomycin. Solutions of terramycin are far more stable than those of aureomycin, and therefore it has advantages from the laboratory standpoint.

Although it behaves in the body much like aureomycin, there are some striking differences. Following the oral administration of 750 mg. of terramycin, effective amounts persist in the blood for many hours. As with the content of aureomycin in the blood, that of terramycin begins to decrease six or eight hours after administration. For that reason, terramycin should be administered every six to eight hours. There is no need for giving it any oftener. Certain studies which we carried out on the diffusion of terramycin in the cerebrospinal fluid indicated that, even when therapeutically effective amounts were present in the blood, little or no activity could be found in the cerebrospinal fluid. This is in contrast to the ease with which aureomycin appears to traverse the blood-brain barrier. Terramycin, on the other hand, freely traverses the placental barrier, and when therapeutically effective amounts are present in the blood serum of the mother, the blood in the cord will be found to contain adequate amounts of terramycin. Likewise, terramycin diffuses readily into the pleural fluid and should prove effective in the treatment of infections of the pulmonary apparatus. As is true of aureomycin, terramycin is concentrated in the liver and excreted in goodly amounts in the bile. We have already demonstrated the fact that terramycin is of value in the treatment of infections of the biliary tract. Enormous amounts of terramycin are excreted in the urine. Clinical studies to date indicate that terramycin is an effective agent in the treatment of certain infections of the urinary tract. Also, large amounts of terramycin are excreted in the feces. It has a profound effect on the bacterial flora of the intestinal tract. Practically all bacteria, as well as

bacteroids, are completely eliminated from the stool after the oral administration of 750 mg. (3 capsules) of terramycin every six hours. It is evident from these facts that terramycin is equally as effective as aureomycin in the treatment of infections of the intestinal tract and in the preparation of patients for operations on the bowel.

Some reports have suggested that aureomycin and terramycin might be given per rectum, but studies carried out on our services at the clinic revealed that no absorption of either of these antibiotics followed this method of administration.⁹

The recommended daily dose of terramycin is exactly the same as that recommended for aureomycin. It is administered every six hours by the oral route and every 12 hours by the intravenous route.

Like aureomycin, terramycin has proved of exceeding value in the treatment of a wide variety of infections, including bacteremia and peritonitis which have followed or complicated operative procedures or perforations of the intestinal tract. We have successfully treated bacteremia caused by gram-negative and gram-positive microbes with this antibiotic.

All of you are aware of the high mortality that occurred in *Bacteroides* bacteremia before the introduction of these newer antibiotics. Penicillin was of little or no value in the treatment of *Bacteroides* infections. We have successfully treated two critically ill patients suffering from *Bacteroides* bacteremia with terramycin; one had perforating diverticulitis and the other had an infection of the colon. Both patients recovered from what appeared at the beginning to be fatal infections.

Terramycin, like aureomycin, is highly effective against the rickettsial infections. Some reports have indicated that terramycin, weight for weight, is more effective against certain rickettsial microorganisms than is aureomycin. Terramycin, when combined with dihydrostreptomycin, is equally as effective as the combination of aureomycin and dihydrostreptomycin in the treatment of brucellosis.

If a patient is sensitive to aureomycin or cannot tolerate it, he may well be able to tolerate terramycin. Terramycin has a profound effect on the intestinal flora in man and has already been shown to be highly effective in the preoperative preparation of patients who are to undergo operations on the bowel or transplantation of the ureters. In fact, according to Di Caprio and Rantz,¹⁰ the effectiveness of terramycin for the preparation of patients for surgical measures on the bowel appears to be unexcelled. Moreover, terramycin is equally as effective as aureomycin for prophylactic purposes; namely, its use in patients who have organic heart murmurs and who are to have oral, transurethral or intestinal surgery. Terramycin has been found to be highly inhibitory

for the growth of *Endamoeba histolytica*, and clinical reports are now appearing which would indicate that this antibiotic also should prove effective in the treatment of amebiasis. Caldwell and co-workers¹¹ reported that terramycin was effective in the treatment of *Shigella* dysentery.

Side Effects of Aureomycin and Terramycin. No serious toxic or side effects have been reported to date after the administration of either aureomycin or terramycin. Probably the commonest and most troublesome problem encountered in the past has had to do with gastrointestinal irritation, predominantly associated with nausea or vomiting. The use of aluminum hydroxide gel is helpful in controlling the nausea and vomiting which may occur in patients receiving aureomycin and terramycin. However, the gels interfere somewhat with the absorption of these antibiotics and in general should not be used.

The incidence of nausea and vomiting, however, has been markedly reduced among patients at the Mayo Clinic, since it has been our policy to administer aureomycin and terramycin with cold, pasteurized milk. The use of milk, however, may be undesirable in the preoperative preparation of patients who are being maintained on a low-residue or nonresidue diet. Furthermore, some individuals cannot tolerate milk. Parsons and Wellman¹² have found that sodium bicarbonate can be substituted for milk and this will control the nausea and at the same time will not in any way interfere with the absorption of these antibiotics. They administer 5 grains of sodium bicarbonate with each 250 mg. capsule of the antibiotic.

It is not surprising that after prolonged use, the marked suppressive effect of both of these antibiotics on the bacterial flora has been associated with some evidence of vitamin deficiency. This is not a serious problem and can be combated simply by the daily administration of a multiple-vitamin preparation. A rather marked change has been shown to occur in the bacterial flora of the mouths of patients receiving aureomycin or terramycin. The normal bacterial flora disappears and a fungous flora is established which usually contains *Monilia albicans*. This may result in the development of glossitis. The development of blacktongue is an interesting side effect which on occasion may follow the use of either aureomycin or terramycin. Downing¹³ is of the opinion that this also represents a deficiency of components of the vitamin B complex.

Perirectal irritation and also vaginal irritation with pruritus are well recognized by those who have used either aureomycin or terramycin to any extent. It seems likely that here again the matter is one of suppression of the normal bacterial flora, which in turn allows an overgrowth of *Monilia fungi*. I know of no highly effective method of dealing with the rectal irritation other than to discontinue the medication. Witch hazel packs are at times helpful. Likewise, the local

application of gentian violet around the rectum and vagina may control the moniliasis.

The incidence of skin reactions after the administration of aureomycin and terramycin seems unusually low. Literally thousands of patients have been treated with both these antibiotics, and yet the literature contains only a few reports of cutaneous toxic reactions. They can occur, however, and may take the form of an urticarial reaction or the rash may be in the nature of a maculopapular one. Elimination of the drug usually will be followed by cessation of the toxic effects within a few days.

I am sure you are familiar with some reports to the effect that the use of these antibiotics may interfere with the coagulability of the blood. It is my conviction that, although minor changes may follow the use of these antibiotics, this phenomenon is of no practical significance whatsoever.

MISCELLANEOUS ANTIBIOTICS

In this category we must consider some of the newer antibiotics, but many of them, for various reasons, are not in widespread use.

Neomycin is an example of a relatively new antibiotic. In addition to its activity against *Mycobacterium tuberculosis*, it is also active against a variety of other organisms. On the other hand, the toxic reactions involving the eighth nerve, as well as renal irritation following the use of neomycin, clearly indicate that this antibiotic should be used cautiously and to a limited degree in the treatment of infections in human beings. In other words, it should be employed only if all the other available antibiotics previously mentioned are found to be ineffective against the infection. What has just been said refers to its systemic use. There is no objection to the use of neomycin in the form of a solution or an ointment applied locally in the treatment of certain infections.

Bacitracin is another antibiotic which has received considerable attention. Like neomycin, bacitracin can be used effectively as a local agent in the treatment of certain infections. If it is found to be active against certain organisms which are resistant to the safer antibiotics, use of it is justifiable. The dose should be small and the condition of the patient should be followed with extreme caution. The recommended dose is in the order of 10,000 units given by the intramuscular route four times per day. Careful studies of renal function are imperative.

The polymyxins have been rather intensively studied by a number of investigators. Polymyxin B (aerosporin) is being used in certain infections. However, as a general statement, I may say that I know of only one instance in which its use should be seriously considered at the present time. I refer to infections caused by *Pseudomonas aeruginosa*. Polymyxin B is another antibiotic which, if used, must be used with great caution.

The daily dose for adult persons is in the order of 100 to 200 mg. given by the intramuscular route in four divided doses. Severe pain at the site of injection is frequently encountered. Furthermore, certain neurotoxic effects are likely to follow its use and will take the form of paresthesias. In some instances, if the dose is too large, cerebellar ataxia may develop.

Viomycin is another of the antibiotics which belong in this group of newer agents. It has some activity against *Mycobacterium tuberculosis*, but does not possess activity against most of the other microbes. It, too, is toxic, and its use is not recommended.

COMBINED ANTIBIOTIC THERAPY

With the advent of many useful antibiotics, it is not at all surprising that the use of combinations of these antibiotics has come into favor. This is one of the most interesting and important problems which confronts us at present. Although the intelligent combination of antibiotic agents is highly useful and desirable, there are certain pitfalls if combining is done without regard for the phenomenon of interference. The studies of Jawetz and Speck,¹⁴ Hunter¹⁵ and others clearly indicate that certain combinations of antibiotics may be undesirable rather than helpful in the management of infections. For example, penicillin is known to inhibit growth best during the period of rapid multiplication of the bacteria. Aureomycin, when placed in contact with bacteria, slows down the growth of these organisms. Therefore, it has been suggested that it is unwise to combine penicillin with aureomycin, whereas either penicillin or aureomycin may be combined with streptomycin to a considerable advantage. In other words, dihydrostreptomycin, as I said in the beginning, is still an exceedingly important antibiotic and its importance is enhanced by these recent studies on combined therapy.

Heilman, Wellman and I¹⁶ made some studies which had to do with induced resistance to terramycin. The strains of certain organisms which are made resistant to terramycin regularly develop increased resistance to aureomycin and chloramphenicol. On the other hand, these strains are not made resistant to streptomycin, and at times increased sensitivity to streptomycin may develop. These findings are consistent with the favorable results I have already mentioned concerning the simultaneous use of aureomycin and streptomycin, or terramycin and streptomycin, in the treatment of brucellosis, as well as other infections. Furthermore, the studies mentioned previously clearly indicate that in most cases there is nothing to be gained by turning from aureomycin to terramycin or to chloramphenicol.

If one wishes to combine penicillin with dihydrostreptomycin, preparations are available which contain in the same syringe 300,000 units of procaine penicillin and 0.5 Gm. of dihydrostrepto-

mycin sulfate per cubic centimeter. Depending upon the dose required, multiples of these amounts may be administered by the intramuscular route. For example, if a patient receives 2 cc. of such a preparation every twelve hours, he will receive a total daily dose of 1,200,000 units of penicillin and 2 Gm. of dihydrostreptomycin sulfate. If one wishes to combine aureomycin or terramycin with dihydrostreptomycin, the streptomycin must be given by the intramuscular route twice daily, and the usual recommended daily dose of aureomycin or terramycin must be given either by the oral or by the intravenous route.

There can be no doubt about the advances that have been made in the treatment of bacterial infections in the past decade. However, with these advances have come many problems, with which the clinician must familiarize himself if he is to use chemotherapeutic and antibiotic agents intelligently in the treatment of these infections.

BIBLIOGRAPHY

1. Rich, M. L.; Ritterhoff, R. J.; and Hoffman, R. J.: Fatal case of aplastic anemia following chloramphenicol (chloromycetin) therapy. *Ann. Int. Med.*, **33**:1459-1467 (December) 1950.
2. Herrell, W. E.; and Heilman, F. R.: Aureomycin: Studies on absorption, diffusion and excretion. *Proc. Staff Meet., Mayo Clin.*, **24**:157-166 (March 30) 1949.
3. Kierland, R. R.; Herrell, W. E.; and O'Leary, P. A.: Treatment of syphilis with aureomycin administered by mouth. *Arch. Dermat. & Syph.*, **61**:185-195 (February) 1950.
4. O'Leary, P. A.; Kierland, R. R.; and Herrell, W. E.: Oral administration of aureomycin (duomycin) and its effect on treponema pallidum in man. *Proc. Staff Meet., Mayo Clin.*, **23**:574-578 (Dec. 8) 1948.
5. O'Leary, P. A.; Kierland, R. R.; and Herrell, W. E.: Oral use of aureomycin in the treatment of late cutaneous syphilis. *Proc. Staff Meet., Mayo Clin.*, **24**:302-306 (May 25) 1949.
6. Herrell, W. E.; and Barber, T. E.: Combined use of aureomycin and dihydrostreptomycin in the treatment of brucellosis. *Proc. Staff Meet., Mayo Clinic.*, **24**:138-145 (Mar. 16) 1949.
7. Herrell, W. E.; and Barber, T. E.: New method for treatment of brucellosis. *J.A.M.A.*, **144**:519-523 (Oct. 14) 1950.
8. Dearing, W. H.; and Heilman, F. R.: Effect of aureomycin on bacterial flora of the intestinal tract of man; A contribution to preoperative preparation. *Proc. Staff Meet., Mayo Clin.*, **25**:87-102 (Feb. 15) 1950.
9. Hoffman, M. S.; Wellman, W. E.; and Herrell, W. E.: Failure of absorption of aureomycin and terramycin administered as a retention enema. *Proc. Staff Meet., Mayo Clin.*, **25**:463-464 (Aug. 2) 1950.
10. Di Caprio, J. M.; and Rantz, L. A.: Effects of terramycin on bacterial flora of the bowel in man. *Arch. Int. Med.*, **86**:649-657 (November) 1950.
11. Caldwell, E. R., Jr.; Spies, H. W.; Wolfe, C. K.; Lepper, M. H.; and Dowling, H. F.: Treatment of various infections with terramycin. *J. Lab. & Clin. Med.*, **36**:747-753 (November) 1950.
12. Parsons, W. B., Jr.; and Wellman, W. E.: Use of antacids to control nausea and vomiting caused by terramycin. *Proc. Staff Meet., Mayo Clin.*, **26**:260-263 (July 4) 1951.
13. Downing, J. G.: Blacktongue as result of antibiotic therapy; report of case. *New England J. Med.*, **242**:1013 (June 29) 1950.
14. Jawetz, E.; and Speck, R. S.: Joint action of penicillin with chloramphenicol on experimental streptococcal infection of mice. *Proc. Soc. Exper. Biol. & Med.*, **74**:93-96 (May) 1950.
15. Hunter, T. H.: Speculation on the mechanism of cure of bacterial endocarditis. *J.A.M.A.*, **144**:524-527 (Oct. 14) 1950.
16. Herrell, W. E.; Heilman, F. R.; and Wellman, W. E.: Some bacteriologic, pharmacologic, and clinical observations on terramycin. *Ann. New York Acad. Sc.*, **53**:448-458 (Sept. 15) 1950.

PSYCHOTIC REACTIONS ASSOCIATED WITH ACTH AND CORTISONE

GARFIELD TOURNEY, M.D.

AND

JACQUES S. GOTTLIEB, M.D.

IOWA CITY

INTRODUCTION

The purpose of this report is to describe four patients who developed psychoses during or immediately following the administration of pituitary adrenocorticotrophic hormone (ACTH) or cortisone, each illustrating a different probable combination of mechanisms for each psychotic reaction. Two of the psychoses occurred with ACTH therapy and two with cortisone therapy.

From the beginning of the clinical use of ACTH and cortisone, psychological changes in patients have been observed to develop during the administration of these drugs.^{1, 2, 3, 4, 5} Most reports have stressed the frequent occurrence of mild-mood disturbances. Euphoria is the most common symptom but depression also occurs. Either mood may occur independently of the effectiveness of the drugs on the disease process. These minor mood disturbances are readily reversible, disappearing rapidly after the medication has been discontinued. Increased tension, irritability, excitedness, facetiousness, fearfulness and insomnia are frequently associated with these mild mood disturbances but disappear as rapidly with cessation of medication. Although mild mood disturbances are the most frequent behavioral reactions, in certain instances the severity of the psychologic changes may reach psychotic proportions and be characterized by a wide variety of symptoms and signs.

That physiologic mechanisms are altered to account for a change in behavior is assumed as responsible for the development of some of these psychoses, although the exact physiologic mechanisms involved cannot be identified. The widespread effects of ACTH and cortisone, which include maintenance of electrolyte and water metabolism, carbohydrate, protein and fat metabolism, enzymatic metabolic activities, reticuloendothelial function, alterations in nervous excitability, interference with acetylcholine metabolism and alterations in acid-base balance, to mention a few, make this most probable.⁶ In addition there have been both reports of status epilepticus occurring in nonepileptic children,⁷ and electroencephalographic abnormalities consisting of a reduction in amplitude with bursts of slow activity (three to seven cycles per second) of the electrocortical potentials.⁸ These observations suggest important alterations in cerebral physiology.

In addition to the possible operation of some of

From the Iowa Psychopathic Hospital and the Department of Psychiatry, State University of Iowa College of Medicine, Iowa City.

these physiologic mechanisms, it is most probable that psychologic mechanisms also play an important role in determining both the occurrence and the type of psychotic illness. The subsequent cases illustrate the probable interaction of physiologic and psychologic mechanisms.

CASE REPORTS

Case 1. The patient was a 54 year old married white female who gave a history of psoriasis of 18 years' duration, with confluent lesions involving the entire torso and scattered lesions on the extremities. One thousand and fifty mg. of ACTH were administered to her during an 18 day period. On the sixteenth day of this therapy, the patient became upset, began pacing the floor and stating that people were looking and laughing at her in a peculiar fashion. She thought she heard voices calling her "crazy." Prior to this during her hospital stay she seemed happy, content and alert, but did have occasional episodes of mild depression which would last only a few hours at a time.

During the remainder of her hospital stay she was apprehensive, tense and felt people were talking about her. She felt she could hear someone calling her names and saying, "She's got to go with us. We're going to take her." She also thought that the local sheriff was coming to incarcerate her. The mood was labile but depression was frequent and crying was common. The orientation, intellectual function and memory were intact. No hyperactive motor functioning occurred.

The past history revealed that the patient had always been worrisome and easily disturbed. She had had a "nervous breakdown" at age 16, characterized by a paralysis of one side of her body associated with numerous fears. She had been quite self-conscious since the onset of the psoriasis 18 years ago. Depressive periods lasting several hours to several days had occurred throughout the past 12 years and there had been some insomnia for the past six years. A year prior to her hospitalization she had become suspicious and jealous of her husband and thought a divorcee was trying to seduce him. She had become more emotionally disturbed at that time.

A month after the onset of the psychological symptoms and the discontinuance of the medication, the patient was not as irritable and was sleeping better, but still occasionally had early morning awakening and depression. Hallucinations had greatly diminished in intensity and frequency. It was possible for her to return to her home at this time.

A five months follow-up after the patient had left the hospital indicated that she was in good spirits with no subsequent residual of her psychosis. In addition her psoriasis had completely subsided.

It is clearly evident that this patient has been

emotionally disturbed throughout most of her life as indicated by a probable hysterical illness at age 16, short periods of depression and an episode of suspiciousness. These characteristics became accentuated with ACTH which evidently reduced the effectiveness of her adaptative and integrative functions. The illness itself had a strong toxic component which may have been responsible for the patient's failure to maintain the integrity of her personality. This is supported by the fact that within a relatively short period of time after the medication had been discontinued, she had returned to her previous character structure. It should be emphasized that in spite of the premorbid trends, there was reversal of the illness. This indicates that prognosis for the individual patient, who has developed a toxic psychosis, may not be specifically based on the evidence of premorbid trends, for the integrative functions of the personality cannot be adequately assessed. In general, however, one would anticipate greater difficulty in recovery for those patients with evidence of instability in their personality organization.

Case 2. The patient, a 39 year old married white female, received 337.5 mg. of ACTH over a period of 13 days for treatment of rheumatoid arthritis of seven years' duration. She became acutely disturbed on the twelfth day of therapy, at which time she began having difficulty conversing, frequently was unable to complete sentences, felt that someone was putting "gas" into the room and that her husband would be harmed. There was considerable religious concern. She described "visions" and insisted on reading the Bible. She expressed the idea that her life was some kind of "plot" and that she had the "answer," but she was unable to give an adequate explanation of her inferences. She suffered from insomnia and frequently screamed during the night. Throughout the illness she was exceedingly restless.

Nine days after the onset of her mental disturbance she was admitted to the hospital. At that time she was acutely disturbed, hyperactive, and physically and verbally abusive. There was a tendency to perseveration in her speech with some clang associations. The mood was labile. There was diminution in her ability to comprehend. She was disoriented as to time and place, and her memory function was disturbed. She was hallucinating auditorily and expressing many paranoid ideas, as, for example, being tormented and poisoned by others. The physical examination revealed numerous minor abrasions and contusions over her body and extremities. There were minimal residuals of the arthritic involvement.

During the first three days of hospitalization, fluid and nutritional balance were maintained by tube-feeding. She was secluded on occasion to prevent her injuring herself or others. Paral-

dehydrate was used for sedation. By the fourth day she had become quiet and more cooperative. She could now converse better, her memory function had improved, confusion had disappeared, and the hallucinations were no longer evident, but she continued to be quite suspicious. She expressed the idea that someone was working against her and became disturbed when an attempt was made to administer sodium amytal intravenously for purposes of eliciting more details of the thought content. Under this medication she revealed that she felt people in the hospital were trying to confuse her, and that a "plot" had been instigated against her which led to her hospitalization. She also expressed the idea that many religious groups were trying to influence her in the hospital. Although she improved in her behavior, she never gave up these delusions which she continued to have at the time of her discharge 39 days after her admission.

The patient's past personality had been described as being introverted and suspicious. No history of a psychosis existing prior to the administration of ACTH was elicited.

The paranoid psychotic state in this patient which persisted after the acute toxic reaction had disappeared would seem to indicate that there were premorbid trends which had predisposed this patient to the development of the psychotic illness. The toxicity due to ACTH may well have acted as a precipitating factor for this illness, hastening the breakdown of the psychological defenses against these premorbid trends. That the toxicity due to ACTH acted as a precipitating factor for this illness is comparable to the fact that, all too commonly, other toxic agents or stressful life experiences act in a similar fashion. One may doubt, therefore, that in this type of instance, ACTH acts as a factor in the development of a psychotic illness in any more specific way than other comparable toxins or stressful events.

Case 3. The patient, a 43 year old married white male, gave a history of rheumatoid arthritis with progressive debilitation during the past nine years. All joints were seriously involved including the jaw and spine. Cachexia was most prominent. The patient received a total of 3,800 mg. of cortisone over a period of 38 days. On the thirty-seventh day of therapy he appeared sluggish in his reactions. When, on the thirty-eighth day, he was told he had received his last cortisone injection, he became depressed, tearful and confused. There had been minimal relief of his arthritic state. Three days later he began to shout, sing and made an attempt to get out of bed. As the pressure of his speech mounted he became more and more incoherent. In addition, disorientation and distortion of memory function were present. Delusions were prominent; he thought his children would be electrocuted if

they came to visit him and that people outside his room were looking in and laughing at him.

He was admitted to the hospital 13 days after the development of these symptoms which then continued for 18 more days. His physical status was characterized by both severe cachexia and severe multiple joint involvement. Mild jaundice and an elevated body temperature were consistent with the diagnosis of amyloidosis made two years previously.

Prior to the onset of the arthritis, the patient had been a cheerful, carefree individual. With the development of the arthritis he had become stubborn, irritable and argumentative. On several occasions he had talked of suicide but had never made any attempt. In addition, he had become quite critical of his wife and children. The home situation was an unhappy one in which he was actively rejected by his wife.

After seven weeks of hospitalization he was discharged as recovered from the acute psychotic illness. During that time he had been maintained on a high caloric, high protein, high vitamin diet, which frequently during the period of his psychosis had to be administered by gavage. Unfortunately, there was no significant alteration during his hospital stay in his physical status.

On returning home the patient again was demanding, critical and frequently complaining of arthritic pain. Five months after his discharge he began to exhibit much childish behavior, grandiosity, pressure of speech and sleeplessness. The manifestations were characteristic of mania without evidence of toxicity as had occurred during the first psychotic episode. There was improvement during two months of hospitalization for this second illness but complete recovery did not occur. A final diagnosis of manic-depressive psychosis, mania, was made.

Again, as in the two previous patients, this patient's first psychotic illness was characterized by many symptoms due to toxicity. But in addition, the severe disappointment of the failure of the medication to relieve the physical symptoms may have been an important factor which contributed to the development of the psychosis. Disturbing life situations, such as the loss of prestige or the death of a loved object, are frequent precipitants of mood disorders. For this patient, the realization of the hopelessness of his illness and his complete invalidism, which led to his rejection by his wife, were most probably influential factors which, with the toxicity of the drug, overcame his integration and released the premorbid trends in the psychotic state. Following the subsiding effects of the drug, the process likely continued in a latent form and subsequently manifested itself in a state of mania.

Case 4. The patient, a 33 year old married white female, was admitted to the hospital because she had become tearful and depressed and was expressing many suicidal thoughts.

A year prior to this time she had developed rheumatoid arthritis. Eventually she was placed on cortisone therapy and received a course of 1800 mg. over an 18 day period, during which she had an increase in her appetite, an improvement in sleep and feeling of well-being. One week after the cortisone was discontinued, the arthritic symptoms returned. A second course of cortisone was then begun and she received 900 mg. over a 12 day period. There was no improvement this time in her arthritis. Two days after the second course of cortisone was discontinued, the present illness began.

The patient had had two previous depressions, one occurring ten years and the other nine years before admission. She recovered from the first spontaneously after a three month period. The second episode was more severe and for this she was given metrazol therapy. Also, nine years before admission a diagnosis of diabetes mellitus was made which had been adequately controlled by diet and insulin.

Her previous personality was that of a neat, conscientious, worrisome individual, inclined to "nervous" episodes in which she would become emotionally disturbed, develop headaches and vomit.

A week after the onset of the depressive symptoms the patient was admitted to the hospital. At this time she was depressed and retarded in both speech and motor spheres. She felt hopeless and considered suicide as her only solution. In addition, the diabetes had become uncontrolled during the cortisone therapy. The diabetes was brought under control during the subsequent three week period. Because of the failure of the depression to improve, however, electric convulsive therapy was initiated. She received a total of nine convulsions at the rate of three a week. At the end of this time she had recovered from the depression and has remained well for at least 16 months.

In this patient it is difficult to directly relate the cause of the patient's psychosis to the physiological effects of cortisone. The symptomatology was typical of manic-depressive psychosis, depressive type, and certainly did not have a toxic delirious component as occurred in the other three patients. Her depression appeared to be related to the severe emotional frustration experienced by the lack of therapeutic success with cortisone which acted as a psychic precipitant for the premorbid trends. It is possible that the relative adrenal insufficiency occurring during and for two to three weeks following cortisone administration may have led to an inadequate adrenal response to the emotional stress of the therapeutic failure, which interfered with the normal physiological mechanisms of handling stress, whether physical or psychological,⁵ and in this way played a role in the development of the illness. This is speculative, however, for the psychic trauma was sufficient to act as a precipitant by itself. Once

established, the reaction continued in the manner of the usual development of the psychotic depression and responded satisfactorily to the accepted therapeutic measures.

DISCUSSION

In summary, there is a continuum from Case 1 to Case 4. Case 1 represented a toxic psychosis due primarily to ACTH with a release of underlying prepsychotic personality trends, but which was reversible. Case 2 illustrated a toxic psychosis in which toxic elements were not prominent but in whom the toxicity precipitated or hastened the development of an unsuspected paranoid psychosis. Case 3 demonstrated a toxic state due to the drug, but in whom great disappointment in its lack of effectiveness was likely an equal potent precipitant for the subsequent illness. Once the illness was manifest, the subsequent environment, characterized by severe rejection, was probably an important factor in the development of the recurrent attack of the psychosis. Lastly, Case 4, who with the disappointment of the effectiveness of the drug, without toxic manifestations, redeveloped an illness, the type of which she had previously experienced.

From the reported cases it is probable that patients respond to ACTH and cortisone in different ways because of the operation of a number of factors other than the drugs themselves. These potent substances may produce toxic psychoses characterized by the usual signs of mood lability, sensorial disturbances, delusions and hallucinations. In addition, it would appear that in certain instances, the toxic state releases underlying premorbid trends. This is not unusual in that toxic psychoses due to other toxins usually act in a similar manner. Because of this phenomena one should not be surprised to see besides the signs of toxicity, other psychotic states which may resemble any psychotic illness, including schizophrenia. In addition, ACTH and cortisone have a profound psychological meaning for patients with chronic debilitating diseases, where these medications are publicized as miraculous therapies and often administered as the last of therapeutic possibilities for the patient. Failure to achieve therapeutic results acts as a psychic trauma to those patients when their expectations are hopelessly frustrated. Under these circumstances, one can expect to see psychiatric illnesses develop in certain patients with premorbid trends in whom the toxic element may be minimal or absent.

Therefore, in the management of the patient who is undergoing therapy with these powerful metabolic agents, the physician should be alerted to both the toxic manifestations of the drug and the psychological significance under which the drugs are administered. The development of toxic manifestations in any patient in whom one is aware of premorbid trends should act as a warning concerning the continuation of the drugs. The

mild mood disorders, which are almost always readily reversible aspects of treatment, are not considered to be significant toxic manifestations of these drugs. But with more advanced signs of toxicity, the physician should weigh the gains to be expected from the medication in alleviating the illness being treated against the possibility of precipitating a psychotic reaction. Furthermore, when these drugs are thought by the patient to be miracle weapons or considered as a final therapeutic endeavor, and there is failure to achieve the therapeutic goal, it is the physician's responsibility to emotionally support the patient to meet this catastrophic disappointment. It may be advisable for the physician to prepare the patient before therapy begins for the possible failure of these medications in those instances in which this is probable. Emotional support for the patient throughout his therapy by the physician should be then forthcoming.

SUMMARY

Four patients who developed psychosis during or immediately following therapy with ACTH or cortisone are described in whom physiologic and psychologic mechanisms interact to various degrees. These factors include toxicity due to the drugs, premorbid personality trends and the psychologic meaning of therapeutic failure. Alertness to the signs of toxicity and emotional support for those patients in whom therapeutic failure is probable may lessen the dangers for development of psychotic reactions.

BIBLIOGRAPHY

1. Power, M. H.; Mason, H. L.; Sprague, R. G.; Albert, A.; Mathieson, D. R.; Hensch, P. S.; Kendall, E. C.; Slocomb, C. H.; and Polley, H. F.: Observations on physiologic effects of cortisone and ACTH in man. *Arch. Int. Med.*, 85:199-258 (February) 1950.

2. Thorne, G. W.; Forsham, P. H.; Frawley, T. F.; Hill, S. R.; Roche, M.; Staehelin, D.; and Wilson, D. L.: Clinical usefulness of ACTH and cortisone. *New England J. Med.*, 242:783-793 (May 18), 824-834 (May 25), 863-872 (June 1) 1950.

3. Rome, H. P.; and Braceland, F. J.: Use of Cortisone and ACTH in certain diseases: psychiatric aspects. *Proc. Staff Meet., Mayo Clin.*, 25:495-497 (August 16) 1950.

4. Ebaugh, F. G.: Present status of ACTH and cortisone therapy from the psychiatric viewpoint. *Am. J. Med. Sci.*, 221:108-112 (January) 1951.

5. Rome, H. P.; and Braceland, F. J.: Psychological response to corticotropin, cortisone and related steroid substances. *JAMA*, 148:27-30 (January 5) 1952.

6. Ingle, D. J.: Biologic properties of cortisone. *J. Clin. Endocrin.*, 10:1312-1354 (November) 1950.

7. Dorfman, A.; Apter, N. S.; Smull, K.; Bergenstal, D. M.; and Richter, R. B.: Status epilepticus coincident with use of pituitary ACTH. *JAMA*, 146:25-27 (May 5) 1951.

8. Hoefer, P. F. A.; and Glaser, G. H.: Effects of pituitary ACTH therapy: electroencephalographic and neuropsychiatric changes in 15 patients. *JAMA*, 143:620-624 (June 17) 1950.

9. Selye, Hans: *Physiology and Pathology of Exposure to Stress*. Acta, Inc., Montreal, 1950.

TELEVISION SCHEDULE
WOI-TV at 8:30 p.m.

July 2.....Are You Overweight?
July 16.....Allergy
July 30.....Hay Fever

ANESTHESIA IN THE AGED

HUBERTA M. LIVINGSTONE, M.D.
AND
NORMAN P. JOHNSON, M.D.
CHICAGO, ILL.

WITH THE PRESENT increasing rate of life expectancy it is important for both anesthesiologists and surgeons to give more consideration to problems inherent in anesthesia and surgery for the aged.

Several authors have dealt with these problems.¹⁻²² Consideration has been given mainly to the surgical management of senile patients. A rather high percentage of elective surgical procedures were included in these reports. None of these articles concerned primarily the aged patient with cardiovascular disease. There is no universal agreement as to the proper surgical and anesthetic care for these individuals. Mortality rates varied from six per cent to over 60 per cent depending on the risk involved. In general the risk and mortality are markedly increased in elderly patients who require urgent surgery.

Senile patients with disturbed cardiovascular function who need urgent intra-abdominal surgery present one of our most difficult problems. In order to evaluate results in such cases we reviewed a series of 392 consecutive patients who were of advanced age and had cardiovascular disease complicated by conditions requiring urgent intra-abdominal surgery. The operative procedures were considered imperative because of perforated vis-

TABLE 1
AGE AND SEX

| AGE YEARS | SEX | | TOTAL | |
|--------------|------|--------|--------|----------|
| | MALE | FEMALE | NUMBER | PER CENT |
| 60-70 | 128 | 110 | 238 | 60.7 |
| 70-80 | 79 | 57 | 136 | 34.7 |
| 80 and over | 10 | 8 | 18 | 4.6 |
| Totals | 217 | 175 | 392 | 100.0 |

cus, intestinal obstruction, hemorrhage, urinary retention or other serious intra-abdominal involvement.

The age and sex of these patients appear in Table 1. All of these individuals were 60 years of age or older. Approximately 60 per cent were between 60 and 70 years of age. The remaining 40 per cent were over 70 years old. The sex incidence was 55 per cent male and 45 per cent female.

Surgery in these 392 patients varied from appendectomy to extremely radical intra-abdominal resections for carcinoma (Table 2). About one fourth of the procedures were carried out on the

From the Department of Surgery (Anesthesiology) of the University of Chicago, Chicago, Ill. Aided by a grant from the Office of Naval Research N6-ori-20, task order 11.
Presented at a meeting of the Iowa Anesthesiological Society, Waterloo, January 15, 1952.

large bowel. This included among others, one stage abdominoperineal resections for malignancy. Operations on the gallbladder and other portions of the biliary system had the next highest incidence (17.8 per cent). Exploratory laparotomies (12.2 per cent) and gastric resections (8.7 per cent) were the next most common interventions. Miscellaneous intra-abdominal operations included a variety of procedures. Surgery was performed by members of the resident staff as well as by attending surgeons.

TABLE 2

| Types of Operations | Number | Per Cent |
|--|--------|----------|
| Operations on biliary tract: Gall bladder | 39 | 9.9 |
| Bile ducts | 16 | 4.1 |
| Others | 15 | 3.8 |
| Repair of abdominal hernia | 29 | 7.4 |
| Operations on abdominal viscera: | | |
| Splenectomy | 4 | 1.0 |
| Vagotomy or sympathectomy | 12 | 3.1 |
| Gastric resection | 34 | 8.7 |
| Gastrostomy or gastroenterostomy | 12 | 3.1 |
| Pancreatotomy, massive resection | 10 | 2.6 |
| Colon and rectal surgery | 98 | 24.9 |
| Appendectomy | 8 | 2.0 |
| Urologic surgery | 25 | 6.4 |
| Gynecologic surgery | 3 | .8 |
| Exploratory laparotomy with or without obstruction | 48 | 12.2 |
| Thoracoabdominal operations | 3 | .8 |
| Miscellaneous intra-abdominal | 36 | 9.2 |
| Totals | 392 | 100.0 |

The preoperative estimation of physical state appears in Table 3. In determining physical state the age of the patient, condition of the cardio-respiratory system, nutritional status as well as many other related factors were considered. None of these patients were classified as good anesthetic risks. About one-third were in fair physical state, while the remaining two-thirds were in poor or serious condition. Consideration was also given to the magnitude of the contemplated surgery.

TABLE 3
AGE AND PREOPERATIVE PHYSICAL STATE IN 392 PATIENTS

| Age | Physical State | | | | | |
|-------------|----------------|------|---------|-----------|------|---------|
| Years | Fair | Poor | Serious | Emergency | Poor | Special |
| 60-70 | 84 | 114 | 24 | | 14 | 2 |
| 70-80 | 36 | 63 | 25 | | 9 | 3 |
| 80 and over | 5 | 5 | 4 | | 4 | - |
| Totals | 125 | 182 | 53 | | 27 | 5 |
| Per Cent | 31.9 | 46.4 | 13.5 | | 6.9 | 1.3 |

Preoperative cardiovascular complications appear in Table 4. Arteriosclerotic heart disease was the most frequent complication. Hypertension was the diagnosis in 30 per cent of the patients. The incidence of rheumatic, luetic and congenital heart disease was much lower. Coronary artery disease was present in 3.6 per cent. Nine patients were in congestive heart failure. Several of these 392 individuals had more than one type of cardiovascular disease.

A fair percentage of these patients had other preoperative complications which increased the risk. Malignant disease was present in 48 per cent. Diabetes mellitus occurred in six per cent.

TABLE 4
PREOPERATIVE CARDIOVASCULAR COMPLICATIONS IN 392 PATIENTS

| Diagnosis | Number | Per Cent |
|--------------------------------|--------|----------|
| Hypertension | 136 | 30.4 |
| Hypotension | 25 | 5.6 |
| Arteriosclerotic heart disease | 167 | 37.3 |
| Rheumatic heart disease | 11 | 2.5 |
| Luetic heart disease | 3 | .7 |
| Congenital heart disease | 1 | .3 |
| Auricular fibrillation | 29 | 6.5 |
| Other arrhythmias | 16 | 3.6 |
| Heart block | 8 | 1.8 |
| Coronary artery disease | 16 | 3.6 |
| Cerebral vascular accident | 2 | .5 |
| Cerebral thrombosis | 3 | .4 |
| Cardiac failure | 9 | 2.0 |
| Cardiac enlargement | 8 | 1.8 |
| Poor functional capacity | 6 | 1.4 |
| Myocardial infarct | 2 | .5 |
| Circulatory, others | 5 | 1.1 |
| Totals | 447 | 100.0 |

Central nervous system and genitourinary complications were present in three and four per cent, respectively. Pulmonary disease of any clinical significance occurred in four per cent.

TABLE 5
AGENTS USED IN 392 PATIENTS WITH CARDIOVASCULAR DISEASE

| Agent | Primary | Secondary | Tertiary | Total Times Used | Per Cent of Total Agents |
|----------------|---------|-----------|----------|------------------|--------------------------|
| Nitrous Oxide | 25 | 31 | 6 | 62 | 9.8 |
| Ethylene | 52 | 74 | 5 | 131 | 20.7 |
| Cyclopropane | 9 | - | - | 9 | 1.4 |
| Ethyl ether | 30 | 19 | 17 | 66 | 10.5 |
| Vinethene | 1 | - | - | 1 | .2 |
| Procaine | 280 | 13 | 5 | 298 | 47.1 |
| Pontocaine | 2 | - | - | 2 | .4 |
| Nupercaine | 4 | - | - | 4 | .6 |
| Pentothal I.V. | 8 | 5 | 1 | 14 | 2.2 |
| Curare I.V. | - | 14 | 24 | 38 | 6.0 |
| Morphine I.V. | - | 5 | 2 | 7 | 1.1 |
| Totals | 411 | 161 | 60 | 632 | 100.0 |

ANESTHETIC METHODS AND MANAGEMENT

Anesthesia was administered by either resident or attending anesthesiologists. A wide variety of drugs was employed (Table 5). Many patients received more than one anesthetic agent in an attempt to utilize the best qualities of each. Procaine was the most commonly employed anesthetic drug and was used for local and regional blocks as well as spinal anesthesia. Ethylene was the choice on more occasions (20.7 per cent) than any other inhalation agent. Ethyl ether and nitrous oxide were employed to a lesser extent. Intravenous medications including morphine, pentothal sodium and curare were

administered in less than ten per cent of the total series.

Local and regional methods including spinal block were selected for over 50 per cent of the patients (Table 6). Inhalation anesthesia was used to a lesser degree, the semi-closed partial

TABLE 6
ANESTHETIC TECHNIQUES USED IN 392 PATIENTS

| METHOD | | NUMBER | PER CENT |
|-------------------------|----------------------------|--------|----------|
| Inhalation (229) | Open drop | 1 | .2 |
| | Semi-open | 1 | .2 |
| | Semi-closed | 188 | 31.2 |
| | CO ₂ absorption | 39 | 6.5 |
| Spinal (252) | Spinal | 57 | 9.5 |
| | Continuous spinal | 195 | 32.4 |
| Local and regional (60) | Infiltration | 49 | 8.3 |
| | Splanchnic block | 10 | 1.7 |
| | Paravertebral block | 1 | .2 |
| Intravenous (58) | | 58 | 9.8 |
| Totals | | 399 | 100.0 |

rebreathing method being most frequently employed. Intravenous methods were utilized in less than ten per cent of the individuals.

OPERATIVE COMPLICATIONS

There were 140 complications during surgery in these 392 patients (Table 7). The greatest number of complications (63 per cent) included a low blood pressure. Of these complications 37 per cent consisted of a marked temporary fall in blood pressure unaccompanied by other signs of circulatory disturbance, 18.6 per cent of shock on a traumatic or hemorrhagic basis and 7.9 per cent of anesthetic shock.

Retching, nausea and vomiting accounted for 16 per cent of the complications, while eight per cent were due to respiratory problems. Local or regional anesthetic failures and cardiac irregularities had a lower incidence.

POSTOPERATIVE COMPLICATIONS

There were 254 postoperative complications in these 392 persons. Several patients had more than one type of complication. Circulatory system disorders were the most common and were present in 61 individuals (15.5 per cent). Cardiac failure occurred in 13 of the above cases. Two of these patients were in cardiac failure before surgery. Coronary occlusion appeared in six individuals of whom two had previous coronary occlusions, while pulmonary emboli were the complicating factors in four others. Additional complications were: hemorrhage, four; shock, six; phlebitis, two; cerebral hemorrhage or thrombosis, five; auricular fibrillation, five; hypotension, seven; and other less disturbing circulatory conditions, seven.

There were 52 instances (13.3 per cent) of postoperative pulmonary complications. Twenty-four persons developed postoperative pneumonia. Of these 13 were bronchopneumonia, five lobar, four aspiration and two hypostatic pneumonia. Partial

pulmonary collapse occurred in three of the 392 patients. Among other pulmonary complications were lung abscess, one; pulmonary edema, three; hiccough, nine; pleurisy, one; cough, six and oxygen want, five.

Minimal postoperative nausea and vomiting was present in 11.5 per cent. Genitourinary complications had an incidence of 10.7 per cent and included 18 patients with retention, eight with uremia, ten with cystitis and one each of anuria, oliguria, pyelitis, hematuria, low renal function and prostatitis.

Among other disturbing postoperative complications were: hepatorenal failure, two; wound disruption, six; wound infection, ten; distension, nine; peritonitis, four; parotitis, one; jaundice, five; mental confusion, ten; headache, four and decubitus ulcer, three.

There were 45 deaths among these 392 patients, making a 11.5 per cent death rate during hospitalization (Table 8). The deaths of 26 patients (57.7 per cent) were considered to be on a circulatory basis. Eleven patients expired of cardiac failure, and four each of pulmonary emboli and cerebrovascular accidents. Two patients had coronary occlusion and three had mesenteric thrombosis. Irreversible shock associated with operative trauma (pancreaticoduodenectomy) was the cause of one fatality, while luetic heart disease was responsible for another death.

Respiratory complications accounted for 13.3 per cent of the total deaths. Four patients (8.8 per

TABLE 7
OPERATIVE COMPLICATIONS IN 392 PATIENTS

| TYPE OF COMPLICATION | NUMBER | PER CENT |
|---|--------|----------|
| Blood pressure fall marked, not shock | 36 | 25.7 |
| Hypotension | 16 | 11.4 |
| Traumatic shock | 26 | 18.6 |
| Anesthetic shock | 11 | 7.9 |
| Arrhythmia | 8 | 5.7 |
| Bradycardia | 1 | .7 |
| Moderate oxygen want | 4 | 2.9 |
| Respiratory depression or obstruction | 6 | 4.3 |
| Hemoptysis | 1 | .7 |
| Retching, nausea, vomiting | 23 | 16.4 |
| Pain | 5 | 3.6 |
| Anesthetic failure | 3 | 2.1 |
| Totals | 140 | 100.0 |

cent) had aspiration pneumonia. Two of these developed during the first postoperative week; whereas the others occurred later in the course of hospitalization. Other terminal conditions included malignancy, three (6.7 per cent); peritonitis, three (6.7 per cent); uremia or hepatorenal failure, four (8.9 per cent); cirrhosis, two (4.5 per cent); and toxemia, one (2.2 per cent).

Two patients expired in the operating room. The first had mesenteric thrombosis with gangrene as well as miliary tuberculosis and was moribund on admission to the operating room. He received only procaine infiltration and mask oxygen. The second death in the operating room occurred during a pancreaticoduodenectomy in a hypertensive in-

TABLE 8
TIME AND CAUSE OF DEATHS

| OPERATIONS | No. OPS. | No. DEATHS | IN O. R. | ON OP. DAY | 1-3 DAYS | 4-6 DAYS | 7-14 DAYS | 15-21 DAYS | 22-30 DAYS | OVER 30 DAYS |
|--|----------|------------|----------------|---------------|---|----------------|---|--|----------------------------------|--------------|
| Gastrectomy | 34 | 5 | | | | 1 Asp. pn. | 1 Asp. pn. 1 Circ. fail. 1 Pulm. emb. 1 Ca | | | |
| Splenectomy | 4 | 2 | | | | | | 1 Toxemia 1 Sarcoma | | |
| Large Bowel and Adominoperineal Resections | 98 | 13 | | | 2 Card. fail. 2 Cereb. acc. 1 Mes. Thromb | 2 Perit. fail. | 1 Pn. 1 Pulm. emb. 1 Asp. pn. | | 1 Cereb. acc. | |
| Pancreatectomy and Massive Resections | 10 | 8 | 1 Shock | | 1 Asp. pn. 1 Card. fail. | | 1 Uremia 1 Card. fail. | | 1 Perit. 1 Hepato-renal fail. | 1 Pn. |
| Genitourinary | 25 | 3 | | | | | 1 Uremia 1 Pulm. emb 1 Ca | 1 Luetic ht. | | |
| Exploratory Laparotomy | 48 | 9 | 1 Mes. thromb. | 1 Mes. thromb | 1 Card. fail. | | 1 Card. fail. | 1 Cirrhosis 1 Cereb. acc. 1 Pulm. emb. | 1 Card. fail. | |
| Ventral Hernioplasty | 29 | 1 | | | | | 1 Cor. occl. | | | |
| Gastroenterostomy | 12 | 1 | | | | | 1 Cor. occl. | | | |
| Cholecyst-gastrostomy | 12 | 2 | | | 1 Hepato-renal fail. | 1 Card. fail. | | | | |
| Eck's Fistula | 1 | 1 | | | | 1 Cirrhosis | | | | |
| Others Without Deaths | 119 | | | | | | | | | |
| Totals | 392 | 45 | 2 | 1 | 9 | 7 | 15 | 6 | 4 | 1 |
| Per Cent | | 11.5 | 4.4 | 2.2 | 19.9 | 15.5 | 33.3 | 13.3 | 8.8 | 2.2 |

dividual. There was massive blood loss and much surgical trauma. He went into severe circulatory shock and expired in spite of heroic measures including massive transfusions. Nineteen of the 40 deaths occurred during the first postoperative week. During the second week 15 patients died and the remaining 11 individuals succumbed at a later date.

While the mortality rate of 11.5 per cent in this series is not excessive considering the risk involved, it might have been lowered by more careful consideration of the many inherent problems.

GENERAL DISCUSSION

It is agreed that particularly in the aged, diminution in oxygenation of the blood, reduction in blood volume and disturbances in metabolism, as a result of anesthesia and surgical management, are poorly tolerated.

No major surgery should be attempted, even emergent, without first correcting dehydration and/or shock. Hydration, blood volume and protein reserves must be adequate. The administration of plasma or blood transfusions may be necessary. All intravenous fluids must be given slowly and in carefully measured amounts to avoid overloading the circulation. Since the aged are susceptible to large amounts of salt, the sodium chloride intake must be watched to avoid edema. The average amount of salt permitted daily with parenteral fluid maintenance should not exceed 5 Gm., unless there has been marked sodium chloride loss. Except in the case of a dehydrated

individual, 1000 cc. of fluid intake a day should be adequate.

The lack of essential metabolites (vitamins, minerals and protein) is more marked in the aged. In non-emergent patients a high caloric, high protein diet supplemented with vitamins is often advisable. Whiskey may be given before meals to stimulate appetite. These patients frequently have a poor mental outlook with no will to live. General nutritional improvement often raises their morale. Physicians and others caring for aged individuals must be gentle, optimistic and encouraging.

Elderly patients do have a high incidence of diminished pulmonary reserve. Emphysema, acute and chronic infections, pulmonary edema and atelectasis are more often found than in younger age groups.

Circulatory disease is quite common in the aged, particularly arteriosclerosis, anemia, decompensation with varying degrees of peripheral or pulmonary edema, and liver and kidney congestion. The extent of any cardiovascular disease should be determined by an adequate history and physical examination. Digitalization or other drug therapy should be initiated when indicated.

ANESTHESIA

A skillful anesthesiologist must select the agents and methods giving the minimum derangement of physiologic processes. These patients with low vital reserve tax the anesthetic and surgical judgment of the most experienced physicians.

The choice of anesthetic agents and management is made only after thorough preoperative evalua-

tion of the patient. It is essential to determine the cardiovascular and respiratory reserve as accurately as possible. The oximeter is a valuable aid in this regard (Figure 1). A photoelectric unit which determines the oxygen saturation of arterial blood is attached to the patient's ear. A simultaneous recording of the oxygen in arterial blood is made by the apparatus. Both preoperative and op-

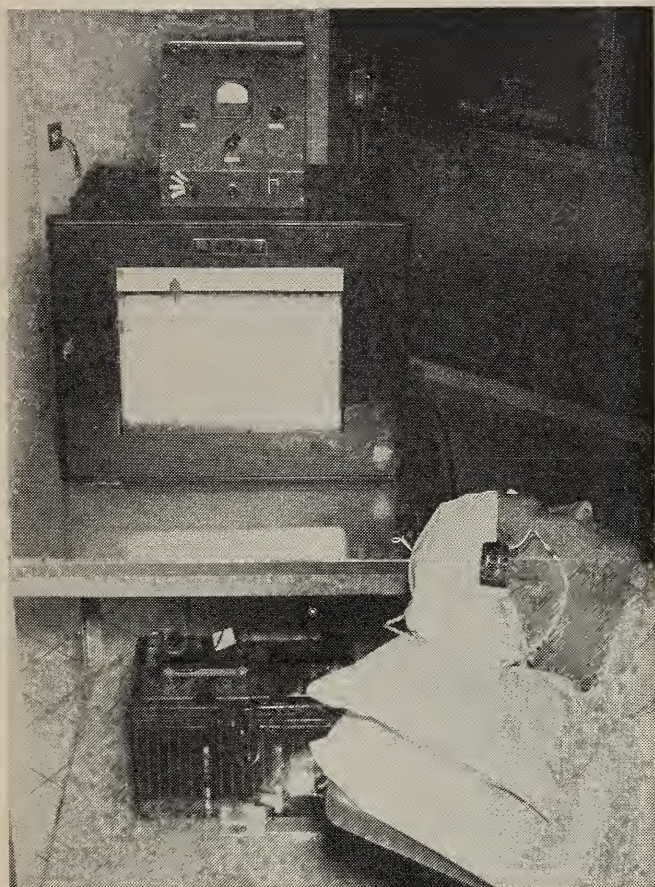


Figure 1

erative studies of oxygen saturation of the blood in one patient in a younger age group are shown in Figure 2. The tracing on the left reveals that simply stepping up 15 times on a 20 inch step lowered the blood oxygen to a dangerous level. The other tracing shows the marked fall in blood oxygen that occurred when the chest was opened for a biopsy of the lung. Increased inhalation pressure with oxygen corrected this deficit.

The functional ability of liver and kidneys and the general metabolism are important factors in evaluation and management of surgical patients.

Aged patients are usually stoical, well composed and not apprehensive so less barbiturate premedication is required. Occasionally barbiturates cause excitement and disorientation in the elderly. Usually only minimal premedication of any kind is necessary. These patients are less tolerant of all depressant drugs. Morphine causes marked central depression and must be given only in small amounts. Scopolamine may cause euphoria, confusion or marked depression, making it difficult to obtain the necessary cooperation. It is wiser to

supplement insufficient premedication than to have an over-premedicated patient arrive in the operating room.

Due to the slower circulation in the aged it takes longer for drugs to act. More time must be allowed for the effects of anesthetic drugs to develop in order to avoid overdosage. Hypodermic premedication should be given one and one-half hours or more before anesthesia. If this time is not available premedication should be withheld until it can be administered intravenously by the anesthesiologist, who can carefully observe and control its effects.

The same fundamental principles covering the conduct of anesthesia in patients of any age must be applied with particular emphasis upon constant vigilance, early recognition of untoward changes in the patient's condition and prompt judicious treatment.

It is absolutely essential to constantly maintain adequate oxygenation of the brain and heart. Usually some degree of stagnant anoxia is present in the aged. The heart, particularly the myocardium, never is as strong as in younger individuals and demands a full supply of oxygen. Anoxia can cause coronary occlusion and cardiac standstill.

Certain surgical procedures produce hypoxia and if employed they must be executed with speed and skill. Figure 3 demonstrates the marked fall in arterial blood oxygen which accompanies endotracheal aspiration or bronchoscopy. It has also been shown that immediately after the insertion of an endotracheal catheter marked lowering of arterial blood oxygen can occur and this must be treated promptly by the administration of oxygen under increased inhalation pressure.

The circulation must be maintained at a normal level for that individual in order to avoid a cardiac accident. The use of therapeutic drugs and proper fluid balance to prevent hypotension is important. Blood loss during surgery should be accurately evaluated and replacement made immediately. If shock occurs, it must be treated without delay. Arteriosclerotic vessels cannot compensate for loss in circulating volume and subsequent hypotension.

Prolonged, deep anesthesia cannot be tolerated. It is essential to maintain as light a plane as possible which is consistent with efficient anesthesia and competent surgery. Operations must be performed with gentleness and accuracy. Keen judgement is required to determine when to operate and when to terminate surgery.

Regional anesthesia has wide application among aged patients, and often is the safest method. Both the concentration and total volume of the anesthetic solution should be decreased. When carefully controlled, regional anesthesia has the least disturbing effect on metabolic processes. Aged individuals have a higher threshold of pain and are less sensitive to touch and pressure. Field

blocks, caudal, intercostal or anterior splanchnic blocks may be used to advantage.

Spinal anesthesia may be advantageous in certain situations. If this method is used, hypotension must be prevented, the minimal dosage of drug administered and the anesthetic level repeatedly checked. In order to combat blood pressure fall, analeptics must be used carefully and in small doses and an intravenous infusion started before any anesthetic drug is administered. Exaggerated responses in blood pressure are to be avoided. Since premedication causes aged patients to become faint when placed in the sitting position, no saddle block should be employed.

The continuous spinal technic introduced by Lemmon²³ has definite value in this type of patient. This technic permits the addition of small divided doses of a drug of low toxicity (procaine) in contradistinction to the older more dangerous method of using a single large injection of a more toxic drug having prolonged action. In some poor risk patients the spinal needle can be placed in situ and the operation started under local infiltration anesthesia. Intrathecal procaine is injected only at the time that relaxation is required and

then in small divided doses. Somewhat longer time is necessary to obtain spinal anesthesia in elderly patients because of slow absorption. Mask oxygen should be given during the presence of a spinal block in order to prevent hypoxia. Increased inhalation pressure may be necessary.

Supplementation of an inadequate block may be accompanied by the hazards of excitation, vomiting and aspiration of gastric contents into the tracheobronchial tree.

Pentothal sodium has limited use, if any, in the aged and then only for short procedures. It is not an analgesic agent, and even though respiratory depression may occur the stimulation from pain may be marked. The action of pentothal sodium is prolonged making postoperative nursing care difficult and risky. Brodie has found that pentothal sodium is held in the fatty tissues of the body from 6 to 12 times as long as in plasma, leaving approximately 85 per cent of the pentothal in the body fat two hours after its administration. He found the true rate of metabolism of pentothal sodium to be only about ten per cent per hour.²⁴

Intravenous medication with barbiturates and/or curare should be carefully employed, if

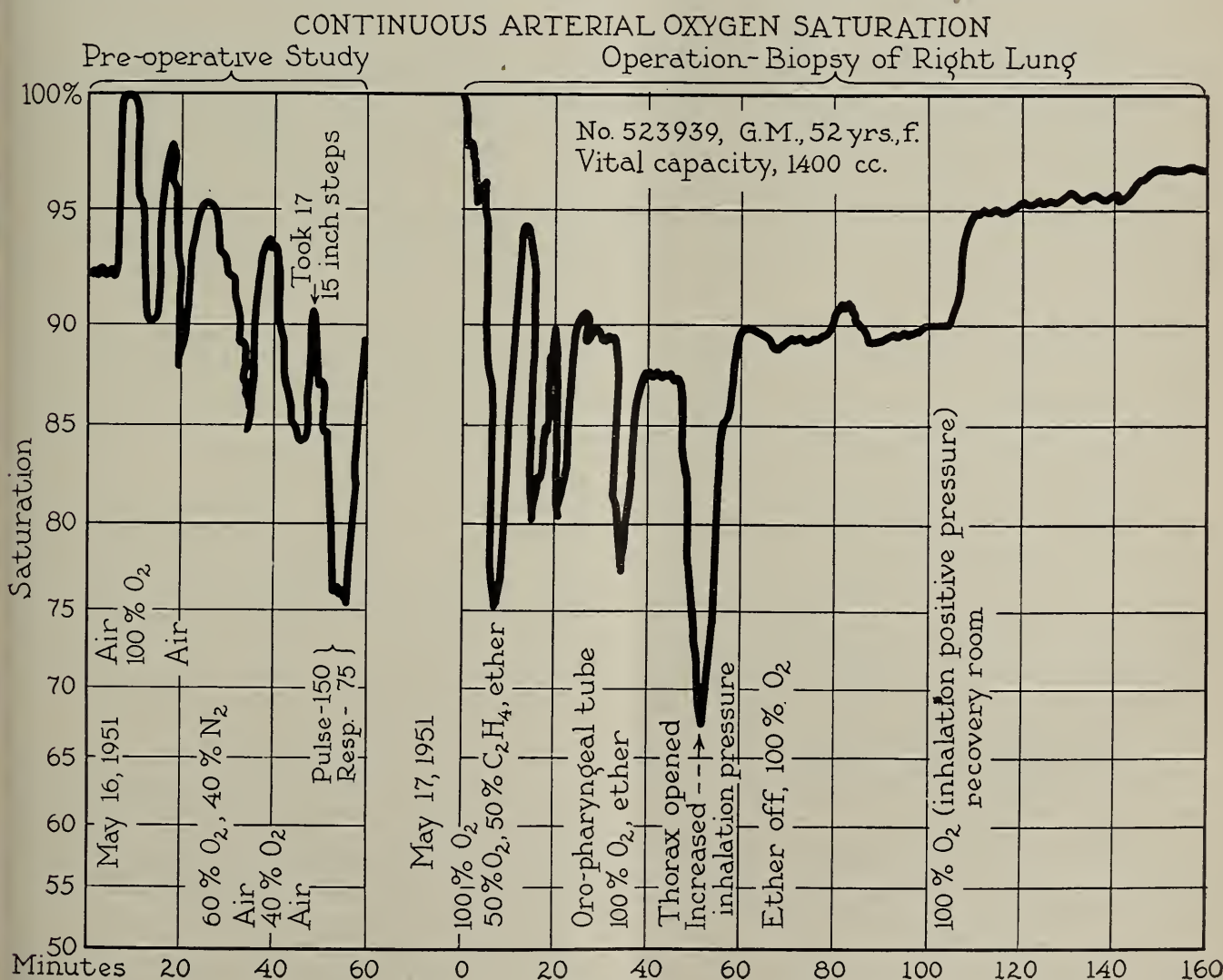


Figure 2

CONTINUOUS ARTERIAL OXYGEN SATURATION L.L. Lobectomy, Lingulectomy and Bronchoscopy for Bilateral Bronchiectasis

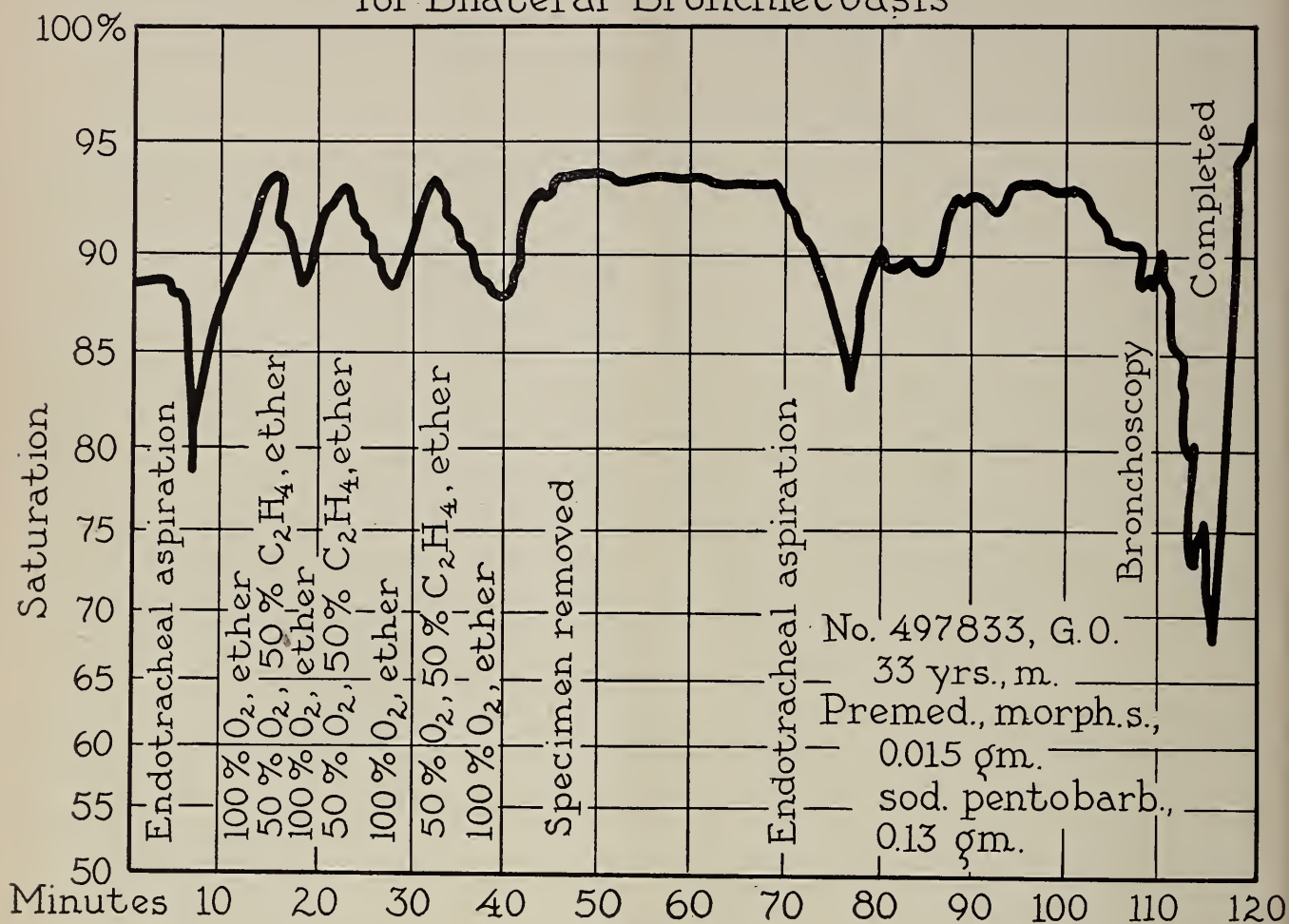


Figure 3

at all, in elderly patients because of the depressant action on the cardiorespiratory system. Oximetric studies have demonstrated the lowering of blood arterial oxygen which accompanies the administration of pentothal sodium or curare, as well as that associated with laryngospasm. The introduction of an artificial airway during pentothal sodium or surital sodium anesthesia can initiate a laryngospasm.

Muscle relaxants are potent and can cause respiratory paralysis. Anyone employing these drugs must be adept at recognizing and treating respiratory insufficiency. Elderly patients cannot withstand decrease in tidal volume. Therefore, any drugs with anoxic potentialities, if employed at all, must be administered in small, divided doses and sufficient time allotted for their delayed absorption and action.

A method for giving efficient artificial respiration with oxygen must be immediately available. Equipment at hand for endotracheal intubation is mandatory if the use of intravenous barbiturates or curare is contemplated.

Ideal inhalation anesthesia should provide rapid induction and recovery, with a minimum of cardio-

respiratory depression. A smooth induction is necessary, with depth and duration of anesthesia kept at a minimum. Nitrous oxide and ethylene have their indications, since they give the minimum of physiologic disturbances if administered with adequate amounts of oxygen. Cyclopropane is a questionable choice in the presence of severe cardiovascular disease.²⁵

The dangers and frequent occurrence of regurgitation and aspiration of stomach and bowel contents into the lungs during inhalation anesthesia has recently been stressed.²⁶ This hazard is always present during general anesthesia particularly in patients with intestinal obstruction.

POSTOPERATIVE CARE

Cardiovascular insults are known to account for most of the postoperative difficulties and include particularly thrombophlebitis, embolism, pulmonary atelectasis and cerebral and kidney complications. Many of these complications are associated with degrees of hypotension.

Shock may be produced in any unconscious patient by an abrupt change in position. Individuals subjected to general anesthesia must be awakened

promptly postoperatively and adequate ventilation assured by the judicious use of oxygen. The presence of any spinal block involving the intercostals necessitates the administration of mask oxygen.

Confusion and irrationality may be on a cerebral anoxic basis and not related to pain. This should be prevented by the administration of oxygen and the avoidance or minimal use of sedation.

Postoperatively these patients should be turned frequently and encouraged to cough and breathe deeply to lessen the incidence of pulmonary complications. If a Levin tube has been employed for gastric suction during surgery it should be removed as soon as possible postoperatively to decrease mucus secretions and facilitate more thorough clearance of the respiratory passages.

The cardiac and kidney status must be frequently evaluated. Digitalization should be provided if indicated. Renal failure may be a result of hypotension. The postoperative retention of urine may be due to prostatic obstruction or stricture. Fecal impaction may occur.

Early ambulation should be encouraged to avoid thrombosis and embolism. The use of antibiotics to reduce the occurrence of infections should be considered.

SUMMARY

The incidence of anesthetic and operative morbidity and mortality in aged patients depends upon meticulous care of the minutest details in their preoperative, operative and postoperative management because of the anatomic and physiologic differences in the aged organism.

Proper fluid and blood replacement is essential. Avoidance of even a minor degree of suboxygenation must be the major concern of the anesthesiologist. The use of an oximeter is of great assistance in this regard.

Anesthetic agents and methods should be chosen which cause the least depression of the total body mechanism and especially of the cardiorespiratory system.

BIBLIOGRAPHY

1. Rowntree, C.: Operative surgery of the aged. *Clin J.*, 60:257-261 (June) 1931.
2. Brooks, B.: Surgery in patients of advanced age. *Ann. Surg.*, 105:481-495 (April) 1937.
3. Rankin, F. W.; and Johnston, C. C.: Major operations in elderly patients. *Surgery*, 5:763-774 (May) 1939.
4. Lawrence, W.: Management of senile patients for anesthesia and operation. *California and West. Med.*, 51:388-390 (December) 1939.
5. Wilcox, L. E.; and Clagett, O. T.: Surgical procedures on patients of advanced age. *Proc. Staff Meet., Mayo Clin.*, 16:795-800 (December 10) 1941.
6. Parsons, W. H.; and Purks, W. K.: Surgical risk in elderly patients. *South. Surgeon*, 11:525-532 (July) 1942.
7. Bancroft, F. W.: Surgery in the aged. *New York State J. Med.*, 43:37-40 (January) 1943.
8. Baird, J. W.: Geriatrics and anesthesia. *Anesthesiology*, 4:17-24 (January) 1943.
9. Forastiere, R. J.: Anesthesia for the aged. *Connecticut M. J.*, 7:243-249 (April) 1943.
10. Dillon, J. B.: Anesthesia for the aged. *JAMA*, 135:977-980 (December) 1947.
11. Turville, C. S.; and Dripps, R. D.: The Anesthetic management of the aged. *Pennsylvania M. J.*, 51:434-436 (January) 1948.
12. Cutler, C. W., Jr.: Biliary tract emergencies in the aged. *S. Clin. North America*, 29:361-368 (April) 1949.
13. Lorhan, P. H.: Anesthesia and surgery in patients of advanced age. *Anesth. & Analg.*, 28:190-202 (July-August) 1949.

14. Brooks, B.: Surgery in the aged. *Chicago M. Soc. Bull.*, 52:359-362 (November) 1949.
15. Bone, J. R.: Regional anesthesia in the aged. *Anesthesia & Analg.*, 29:51-53 (January-February) 1950.
16. McLaughlin, C. W., Jr.: Urgent abdominal surgery in the aged. *J. Omaha Mid-West Clin. Soc.*, 11:25-28 (January) 1950.
17. Weiss, W. A.: Anesthesia in the aging group. *Geriatrics*, 5:26 (January-February) 1950.
18. Cutler, C. W., Jr.: Abdominal surgical emergencies in the aged. *New York State J. Med.*, 50:541-544 (March) 1950.
19. Ziffren, S. E.; Zager, L. L.; and Cullen, S. C.: Hazards of surgery beyond the age of eighty. *Geriatrics*, 5:252-258 (September-October) 1950.
20. Foldes, F. F.: Some problems of geriatric anesthesia. *Anesthesiology*, 11:737-744 (November) 1950.
21. Bernstine, M. L.: Some basic principles of geriatric anesthesia. *Geriatrics*, 6:40-44 (January-February) 1951.
22. Taylor, J. A.: Prostatectomy in the aged. *JAMA*, 147:808-810 (Oct. 27) 1951.
23. Lemmon, W. T.: Method for continuous spinal anesthesia. *Ann. Surg.*, 111:141-145 (January) 1940.
24. Brodie, B. B.: Intravenous anesthetics—experimental aspects. Presented at the Twenty-sixth Annual Congress of Anesthetists, British Medical Association House; London England, Sept. 3, 1951.
25. Kurtz, C. M.; Bennett, J. H.; Shapiro, H. H.: Electrocardiographic studies during surgical anesthesia *JAMA*, 106:434-441 (Feb. 8) 1936.
26. Culver, G. A.; Makel, H. P.; and Beecher, H. K.: Frequency of aspiration of gastric contents by the lungs during anesthesia and surgery. *Ann. Surg.*, 133:289-292 (March) 1951.

CENTRAL SEROUS CHOROIDOSIS

GLENN L. WALKER, M.D.

IOWA CITY

Central serous choroidosis is a descriptive term sometimes used to designate those lesions of the macula which are non-inflammatory, relatively benign and serous in nature. Those¹ who use this term infer that the lesion is caused by some abnormality of the underlying choroidal circulation. This clinical entity also is known by many other names coined by ophthalmologists who believe that the primary pathology is located in the retina. These include central serous retinopathy,² central serous retinosis,³ central angiospastic retinopathy⁴ and many others. Walsh and Sloan⁵ called a similar appearing lesion idiopathic flat detachment of the macula. The term, juvenile disciform degeneration of the macula, was introduced by Verhoeff and Grossman⁶ to describe a lesion possibly belonging in the same category.

The disease usually affects young or middle-aged persons and predominantly males. A history often can be obtained of one or more similar episodes that subsided spontaneously with little or no loss of vision.

The symptoms include unilateral blurring which may vary from slight diminution to marked reduction of vision. Often the patient complains of a dark spot or cloud which obscures the central portion of the visual field. Micropsia with or without metamorphopsia may be present.

The examination always discloses some loss of central vision. This may vary from only a slight blur of the letters in the normal vision line to a reduction of as much as 6/60 or more. A temporary hyperopia often is present which disappears as the swelling of the macula subsides.

From the Department of Ophthalmology, College of Medicine, State University of Iowa, Iowa City.

Ophthalmoscopic examination reveals an ill-defined, slightly elevated lesion occupying the macular area. The appearance of the lesion varies markedly, depending on the stage and the severity of the disease. In most instances it is round or slightly oval and symmetrically placed with regard to the fovea, but it may be eccentric and have an irregular margin. The expanse of the involved area seldom exceeds four disc diameters. The elevated retina has an opaque, greyish appearance and often delicate radial striae or minute folds are visible on the surface. Frequently one or more deeper, poorly defined, bluish or brownish areas can be discerned beneath the partially opaque retina. Often small subretinal hemorrhages outline the peripheral extent of the lesion. The vitreous, even in the region of the swollen macula, retains its normal transparency, and changes in the retinal vessels are seldom visible.

The few cases which I have examined with the slit lamp have presented an elevated, edematous retina. The central depression in the region of the fovea gives the optical section the appearance of a Cupid's bow which was first described by Goldmann.⁷ As yet, an overlying vitreous detachment, a flat detachment of the macula, or an elevation of the pigment epithelium has not been identified by this method.

Visual field studies reveal some type of central scotoma. The character of the defect is determined by the position, severity and extent of the pathologic process. Considerable stress has been placed on the quality of the scotoma, particularly by Duggan.¹ He points out that the defect is disproportionately larger for blue than for red, indicating primary involvement of the outer retinal layers.

In making the diagnosis, retrobulbar neuritis, malignant melanoma and central chorioretinitis are the usual conditions to be excluded. Only when changes in the macula are minimal is the process likely to be mistaken for retrobulbar neuritis. The absence of painful ocular rotations, visual field studies and a careful appraisal of the macular region should prevent confusion. The appearance of the elevated retina with the ophthalmoscope may simulate a malignant melanoma, especially if areas of pigmentation are visible. Slit lamp examination is a valuable aid in differentiating this condition. By this method it often can be demonstrated that the elevation is caused by edema of the retina and not by a solid tumor of the choroid. The absence of a retinal detachment and the subsequent course of the disease are other factors that lead to a proper diagnosis. Inflammatory lesions are more destructive, progress rapidly and produce clouding of the vitreous.

As mentioned above, the local pathogenesis remains unsettled, and the site of the primary disturbance has not been determined. It seems to me that the reasons advanced for locating the primary pathology in the retina on the basis of

arteriolar or capillary spasm are inconclusive, whereas substantial evidence exists which places it in the choroid. As Duggan¹ has pointed out, ischemic lesions of the retina are light in color, unpigmented and seldom symmetrically placed in the macular area. On the other hand, the characteristic macular localization and other features of the disease are best explained by the anatomy of the choroid and available pathological material. Leber⁸ and others have shown that the arteries of the choroid have few branches of intercommunication and, therefore, possess to a considerable degree the ability of localized response. The macular area perhaps more than any other region responds in such a localized fashion, indicating the presence of a highly specialized vascular bed, probably controlled by a single posterior ciliary artery. Any involvement, spasm, sclerosis, inflammation, toxic influence or any combination of these affecting the vascular supply of this specialized area might cause a serous or hemorrhagic extravasation in the choroid. This extravasation passing through the lamina vitrea into or beneath the retina would produce a localized, elevated, non-inflammatory lesion at the macula. In this regard, the notable contribution of Verhoeff and Grossman⁶ on the pathogenesis of senile disciform degeneration of the macula is of the greatest importance. It is clearly evident from the pathological material described in this report that a transudate originating in the choroid may by a process of diffusion, diapedesis, or through actual breaks cross the lamina vitrea and produce secondary swelling and elevation of the retina. Assuming that the primary vascular insult produced a pure serous transudation, then the secondary retinal manifestation would be a lesion typical of central serous choroidosis. Such a lesion occurring in a young person would tend to be reversible, transitory and produce little if any residual pathology. Conversely, as shown by Verhoeff and Grossman,⁶ when blood collects beneath the retina and fibrosis assumes a dominant role in the healing process, the end result is the proliferative lesion, senile disciform degeneration of the macula. Moreover, it is most probable that between these two extremes varying degrees of functional or organic choroidal vascular involvement account for many different types of macular lesions.

In general, central serous choroidosis has a favorable prognosis for useful vision; especially in the younger age group. The final result probably is determined by the amount of fibrosis that occurs during the healing period.

Treatment is directed toward improvement of the circulation of the affected area. A detailed history and a careful physical examination are essential. Advice concerning correction of faulty living habits should be given, and any metabolic faults, vitamin deficiencies, allergies and focal infections eliminated whenever feasible. Anti-

spasmodic drugs are useful and include intravenous injections of typhoid "H" antigen, intramuscular injections of sodium nitrate, oral doses of nicotinic acid and many others. Since it is known that cortisone and ACTH delay the process of connective tissue formation, the advisability of administration of one of these drugs should be given careful consideration. Even though spontaneous improvement is known to occur in a high percentage of cases, rational measures to improve the general health and circulation appear to shorten the period of disability and lessen the likelihood of recurrence.

BIBLIOGRAPHY

1. Duggan, W. F.: Choroiditis centralis serosa. *Arch. Ophth.*, 27:123-138 (January) 1942.
2. Duke-Elder, S.: Central Serous Retinopathy. III:2592-2594, *Textbook of Ophthalmology*, C. V. Mosby Co., St. Louis, 1941.
3. Keeney, A. H.: Central serous retinosis. *Clinical Conference Reports, Wills Eye Hospital*, 4:14-23 (January) 1951.
4. Gifford, A. R.; and Marquardt, G.: Central angiospastic retinopathy. *Arch. Ophth.*, 21:211-228 (February) 1939.
5. Walsh, F. B.; and Sloan, L. L.: Idiopathic flat detachment of the macula. *Am. J. Ophth.*, 19:195-208 (March) 1936.
6. Verhoeff, F. H.; and Grossman, H. P.: Pathogenesis of disciform degeneration of the macula. *Arch. Ophth.*, 18:561-585 (October) 1937.
7. Goldmann, H.: Slit-lamp examination of the vitreous and the fundus. *Brit. J. Ophth.*, 33:242-247 (April) 1949.
8. Leber, T.: The Arteries of the Choroid. 2:39, *Graefes-Saemisch Handbuch Der Augenheilkunde*, 2nd ed., Julius Springer, Berlin, 1931.

TENDON TRANSFERS IN THE FOREARM AND HAND

WALTER C. GRAHAM, M.D.
SANTA BARBARA, CALIF.

The transfer of tendons in the forearm or hand has only one purpose and that is to re-establish tendon functions in the fingers and thumb so that they can be activated into flexion or extension or stabilization. Our primary purpose is to establish as near normal muscle control to the thumb and index finger as possible. The control is then extended on to the other fingers so that they will act in as near normal a manner as possible. Fortunately, in the forearm or hand tendons may be transferred from extensors to flexors or vice versa and assume other action than that which they had originally and immediately take over the new function. This is probably due to the stabilizing effect that is always necessary in any function of the normal hand. Practically all muscles are brought into play on any intricate movement of the hand such as picking up small articles or lifting tremendous weights. Because of this, when they are moved to a new function they will automatically contract and bring about the desired activity to the digits. It is more desirable that transfers be done early so that the body and mind have not substituted new muscles to replace the injured. This is true in polio as well as in muscle and nerve injuries that cannot be repaired.

Presented at the One Hundredth Meeting of the Iowa State Medical Society, Sioux City, April 23-25, 1951.

I had a sad experience in transplanting for a radial palsy in an elderly man who had had the paralysis for well over 40 years. This is the only patient I have seen who was unable to readjust and rehabilitate himself to the transplant. He would have been better had nothing been done.

It is necessary that all joints between the brain and the tip of the finger be stabilized for function to take place in the fingers. This includes the shoulder, elbow, wrist, metacarpal phalangeal joint and interphalangeal joints. If not enough muscles are available to produce the stability, then arthrodesis of certain joints will be necessary. Of course, the most desirable joint for arthrodesis is the wrist as this supplies seven extra muscles that can be transplanted to mobilize the fingers.

It is desirable in transplanting to use muscles that have an excursion similar to those that are being restored. We should not use wrist movers to replace finger movers unless there are not sufficient tendons with long excursions present to adequately restore the motion desired. We also try to place muscles with adequate strength in our transfers so that the transplanted muscle will be adequate to do the job which is assigned to it. I have found that the first dorsal interosseus being replaced by the extensor indicis proprius is not adequate. Also, the extensor pollicis brevis is not strong enough. The combination of the two gives a much better function. Better yet, use the sublimis of the ring finger to restore this function as it has adequate strength to give good stability. The direction of pull of the transplanted muscle should be as near to that of the tendon we are attaching it to as possible. In other words, the tip of the motor tendon should not just be attached to a portion of the tendon but the entire tendon length as well as a portion of the muscle belly should be moved and placed in the right direction to eliminate acute angles.

An example of a desirable transfer in radial nerve palsy in which all extensors of the fingers and wrist are lost as well as the abductor longus of the thumb would be the flexor carpi ulnaris to extend the lateral three fingers; the flexor carpi radialis to extend the long extensor of the thumb and the index finger; the pronator teres to fix to the extensor carpi radialis brevis and the extensor carpi ulnaris; the palmaris longus can be moved to abduct the thumb and the flexor sublimis of the ring finger to replace the flexors of the wrist.

Transfers for median nerve palsy require replacement of the flexor sublimis and profundus of the first three fingers, the long flexor of the thumb as well as the opponens of the thumb. The profundus can be sutured to the adjacent profundus which are mobilized by the ulnar nerve and given added strength by use of the brachioradialis or extensor carpi longus. The action can be restored to the long flexor of the thumb by the extensor carpi radialis longus or brevis and the opponens

be replaced by the flexor carpi ulnaris. In ulnar nerve palsy the replacement of the first dorsal interosseus and the short flexors and adductors of the thumb are necessary for stabilizing pinch. The first dorsal interosseus has three possibilities for replacement. The short flexors and adductors of the thumb can be replaced by the sublimis to the ring finger or middle finger. In certain cases where transplants are necessary to replace the intrinsic muscles and prevent hyperextension of the ring and little finger, the sublimii or the extensor proprius may be used.

It is usually not desirable to give a tendon two functions. There are exceptions to this, of course; one being the opponens pollicis repair when it is restored by the flexor carpi ulnaris. The transplanted muscle will also act as a flexor to the wrist. If tendons are transferred through scarred areas we can expect a much poorer result. If cicatrix is deep and severe, it is advisable that it be removed and be replaced by a flap so there will be soft gliding material for the tendon to slide through. Tendons will adhere to raw ligamentous tissue, traumatized muscle or exposed bone. The tendon should not be placed beneath a longitudinal incision as it will adhere as the skin heals. The tension placed on the transfer has to be determined at the time of the operation. It is generally desirable to put the tendon in snug. If a muscle that has not been active for some time is being transplanted, then more tension should be applied as they tend to assume their former length.

In summary, an attempt has been made to present the possibilities of various muscles for transplant and the indications for each. We have indicated the difficulties which may be encountered and will often lead to failure. A word of caution; study possibilities carefully and be sure the transplant is desirable before attempting it.

MERCY HOSPITAL

Clinicopathologic Conference

March 4, 1952

FRANK C. COLEMAN, M.D.

AND

PAUL T. CASH, M.D.

DES MOINES

SUMMARY OF CLINICAL RECORD

A 66 YEAR OLD colored male was admitted to the Mercy Hospital, Des Moines on July 23, 1951, and was discharged on August 28, 1951. He expired August 30, 1951.

Chief Complaint: Severe occipital headache and low back pain.

Present Illness: This patient first complained of pain in the lower back in April, 1951. Since then,

the pain has become progressively worse. Although this pain persisted, he continued to work until July 19 when he consulted a physician for relief of this pain and for a severe occipital headache. He was told that the headache was caused by high blood pressure and was sent home to rest. Both the headache and back pain persisted and on July 23 was seen by another physician. The patient was febrile and complaining of a severe headache. Physical examination revealed a stiff neck with hypoactive reflexes. There was no history of weight loss, nausea or vomiting, dizziness, visual disturbances or paresthesia. He was admitted to Mercy Hospital on July 23, 1951.

Past History: No serious illness in past ten years. Two accidents—one a fractured toe; the other, a piece of steel in one eye a number of years ago. He has always had a husky voice, but this has been somewhat more pronounced since the onset of his present illness.

Family History: This patient's mother died, cause unknown. His father died at the age of 90 years of heart disease. One brother and two sisters are living and are in good health. One brother died of coronary occlusion. This patient's five children are all living. The patient's oldest son contracted malaria during World War II and in June, 1949 a diagnosis of active pulmonary tuberculosis was made; he was hospitalized until December, 1950.

Physical Examination: Pulse, 76; blood pressure, 165/100; respirations, 24; temperature, 101.4° R. His general appearance was that of a well developed rather slim colored male. Examination of the eyes revealed the pupils to be round, regular, equal and react to light and accommodation. The sclerae were clear. Retinal sclerosis was present. The nose and ears were normal, and the pharynx was moderately injected. The patient was unable to flex his neck but no pain was elicited by attempts at flexion. There was no adenopathy. A few moist rales were present, in the left base, posteriorly. The point of maximal impulse was at the anterior axillary line of the heart. Occasional premature contractions were present. The rate was 76. Superficial reflexes of the abdomen were present and equal. No masses were palpable. The liver was down one fingerbreadth. The biceps tendon reflexes were slightly hyperactive, but equal. The patellar tendon reflexes were hypoactive. Babinski, negative. Gordon sign, equivocal. Kernig's sign, negative. Vurpas sign, positive.

Laboratory Studies: Admission urinalysis: Reaction, acid; color, straw; specific gravity, 1.030; albumin, two plus; sugar, negative; microscopic, 2 to 4 pus cells, occasional red blood cells, occasional finely granular casts per high power field. Admission hemogram: Hemoglobin, 14.1 Gm. or 90.6 per cent; red blood cells, 4,480,000; white blood cells, 7,800 with a differential count of 68 per cent neutrophils, two per cent eosinophils

and 30 per cent lymphocytes. Admission serology: VDRL and Kline flocculation tests, negative.

Repeat hemogram: (August 6, 1951) Hemoglobin, 11.55 Gm. or 75 per cent; red blood cells, 3,870,000; white blood cells, 6,800 with a differential count of 84 per cent neutrophils, one per cent eosinophils and 15 per cent lymphocytes. Repeat urinalysis: (August 6, 1951) Reaction, acid; color, straw; specific gravity, quantity not sufficient; albumin, two plus; sugar, negative; microscopic, 15 to 20 red blood cells, 10 to 15 pus cells and occasional epithelial cells per high power field.

Bacteriology: (July 24, 26, August 2 and 6) Blood culture: negative. (July 24, 1951) Spinal fluid culture: No acid-fast bacilli seen. Culture negative. (July 31, 1951) Urine culture: Negative. (August 11, 1951) Spinal fluid smear and culture: No organisms seen. Culture, negative. (July 27, 1951) Spinal fluid culture; culture for fungus and guinea pig inoculations: No acid-fast bacilli seen. Fungus culture, negative.

Special Procedures: (July 27, 1951) Cerebrospinal fluid chloride: 570 mg. per cent; cerebrospinal fluid glucose, none detected.

Feces: (August 8, 1951) No ova or parasites seen. No enteric pathogens found.

Cerebrospinal fluid: (July 23, 1951) Total cells, 308 cells; mononuclear cells, 71 per cent; polymorphonuclear cells, 29 per cent; total protein, 178 mg. per cent. (July 27, 1951) Total cells, 364; color, cloudy; mononuclear cells, 10 per cent; polymorphonuclear cells, 90 per cent; total protein, 193 mg. per cent; colloidal gold, 0000123421; Wasserman, negative. (July 28, 1951) Levinson's test: positive. (August 11, 1951) Total cells, 192 cells; color, slightly xanthochromic; mononuclear cells, 80 per cent; polymorphonuclear cells, 20 per cent; total protein, 208 mg. per cent. (July 27, 1951) Tissue block: Spinal fluid contained lymphocytes and occasional polymorphonuclear leukocytes. There was no evidence of malignant cells or fungi.

Biopsy from brain tissue: (July 30, 1951) Diagnosis: Chronic leptomenigitis. Eight microscopic sections were present. The biopsy was taken through the superficial cortex. The subarachnoid space contained moderate numbers of lymphocytes, polymorphonuclear leukocytes and histiocytes as well as many red blood cells. Occasional bits of calcium were also present. No malignant cells and no fungi were visible. The cortex was of normal appearance. There was nothing diagnostic about the nature of the lesion in these sections.

X-ray Studies: (July 24, 1951) There was no evidence of metastatic malignancy to bony thorax or to lung structures; calcium was present in the aortic arch and the cardiothoracic ratio was within normal limits. Pelvic studies revealed osteoarthritis of hip joints and sacroiliac joints; spina bifida 1st sacral segment. There was a

moderately severe degree of osteoarthritis in the lumbar spine and a severe degree of osteoarthritis in the 7th, 8th and 9th dorsal vertebrae.

The pneumoencephalogram of July 27, 1951 showed the ventricular filling was essentially normal, bilateral; however, the subarachnoid airways on left were widened, but on the right no air was seen in the corresponding areas; air was seen on the right close to the falx cerebri. Changes on the right suggested either a subdural



Figure 1. Photograph of the undersurface of the brain with gelatinous exudate over the anterior surface of the pons and around the optic chiasm.

hematoma or an arachnoiditis. Reexamination of the chest (portable; August 25, 1951) revealed a tube in the stomach; no definite pathological changes were noted in either lung.

Clinical Course: On admission to the hospital, the patient was placed on a regimen consisting of demerol, penicillin and dihydrostreptomycin. On July 27 a pneumoencephalogram was performed. On July 30 a right frontal craniotomy was performed. The brain appeared to be under increased pressure and the arachnoid was cloudy. A biopsy specimen was obtained. The patient did well for a few days and then became worse and developed hemiparesis. Because of this the craniotomy wound was reopened on August 13 and a small amount of epidural clot was removed. He continued to complain of pain in his back, headache and showed little improvement. He was

discharged from the hospital on August 28, 1951 and expired at home two days later.

CLINICAL DISCUSSION

Dr. Paul T. Cash: This is an interesting case because it is one instance in which the protocol appears to contain all of the information that one would require to be reasonably sure of the diagnosis. A review of the protocol reveals that the patient was a 66 year old colored male admitted to Mercy Hospital the first time July 23, 1951, discharged August 28, 1951 and expired August 30, 1951.

The present illness dated from April 1, 1951

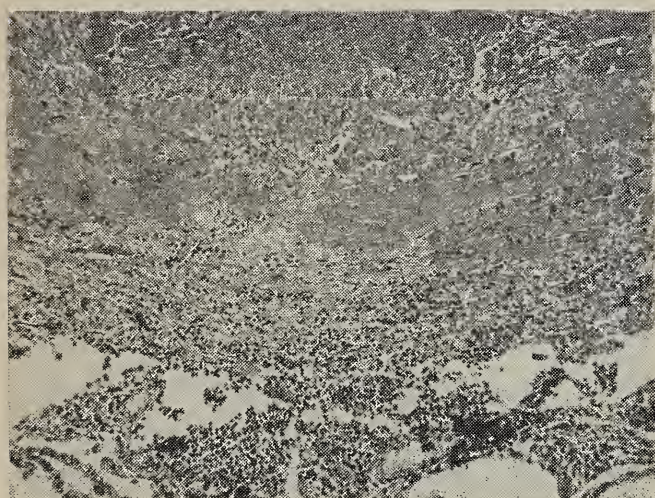


Figure 2. Photomicrograph of tuberculous lesion of the lung. The caseous center is surrounded by a fibrous wall.

and the original complaints were those of back pain which became progressively worse. He continued to work until July 19 when he began to suffer severe occipital headache. He was placed on rest at home but the headache and backache persisted and on July 23 he was seen by a second physician. At this time, he was running a low grade fever and complained of severe headache. Examination at that time revealed a stiff neck with hypoactive deep reflexes. It is interesting to note that at first his deep reflexes were depressed but later became hyperactive. There were no other complaints at the time, and he was admitted to Mercy Hospital July 23 complaining of severe occipital headache and low back pain.

The past history is not particularly revealing except for a history of a husky voice which had always been present but was somewhat more pronounced since the onset of his present illness. The family history is more revealing with a history of active tuberculosis in one son, which was diagnosed in June, 1949, with hospitalization until December 3, 1950.

At the time of admission, the pulse was normal and the blood pressure was only slightly elevated being 165/100; the temperature was 101.4 degrees by rectum. There was some retinal sclerosis and moderate injection of the pharynx. There was def-

inite resistance to flexion of the neck but no pain. There were some moist rales in the left base, posteriorly. The heart was normal. The abdomen was negative except for a palpable liver. The neurological examination revealed only the neck rigidity and by this time slightly hyperactive deep reflexes but no abnormal reflexes.

The laboratory studies showed a two plus albumin in the urine and an occasional red blood cell and granular cast. The hemoglobin and blood counts were normal. Spinal fluid culture was negative and no acid-fast bacilli were seen. The spinal fluid contained a total of 364 cells of which 90 per cent were polymorphonuclear cells. It is interesting to note that on subsequent spinal fluid examination the ratio of polymorphonuclear cells to mononuclear cells was reversed and the percentage of polymorphonuclear cells dropped to 20. Blood culture was negative. Spinal fluid smear and cultures were again negative on August 11, 1951. Guinea pig inoculations are not reported here. Fungus cultures of the spinal fluid were also negative. The biochemical studies showed a chloride level in the spinal fluid of 570 mg. per cent with no glucose in the spinal fluid. A spinal fluid chloride level of 570 mg. per cent is most commonly associated with tuberculous meningitis, although on occasion, it may occur in other types of meningitis. You must also be careful in evaluating this finding in a patient who has been vomiting or in one whose chloride intake has been low because a low level in such patients may be misleading. Laboratory examination of the feces was negative. A spinal fluid examination on July 23 revealed 308 cells with 71 per cent mononuclear cells and 29 per cent polymorphonuclear cells. The total protein was 178 mg. per cent. On August 11, 1951 the spinal fluid cell count was 192 with 80 per cent mononuclear cells and 20 per cent polymorphonuclear cells. The total protein content was 208 and the spinal fluid was slightly xanthochromic. On August 11 a Levinson's test was positive for tuberculous meningitis. A biopsy on July 30 showed a chronic leptomeningitis. The subarachnoid space contained moderate numbers of lymphocytes, polymorphonuclear leukocytes and histiocytes as well as red blood cells. Occasional bits of calcium were present. No malignant cells were seen and there were no fungi. The cortex was of normal appearance. There is nothing diagnostic about this report. X-rays of the chest revealed no evidence of metastatic malignancy or pulmonary disease. X-rays of the lumbar spine revealed only some osteoarthritis. A pneumoencephalogram on July 27 revealed good ventricular filling. The subarachnoid space on the left, however, was widened and on the right side was obliterated. These changes would be compatible with either a subdural hematoma on the right or an arachnoiditis on the right. On July 30 a right frontal craniotomy was performed. The brain appeared to be under increased pressure and the pia arachnoid was cloudy. A few days later the patient developed a

hemiparesis which is also a common development in tuberculous meningitis. At the time, however, it was felt that the re-exploration was indicated and a small amount of epidural clot was removed. The patient continued to complain of pain in his back and headache. He was discharged on August 28, 1951 and died on August 30, 1951.

The history and findings in this case point to a chronic low grade meningitis of some type. Tuberculous meningitis may occur at any age but is usually more common in children and young adults. It may occur, however, in older people. Other types of low grade meningitis with these findings are luetic meningitis or possibly a choriomeningitis. One would expect to find luetic meningitis in a younger individual and most of the time there is a fairly definite history of an initial lesion about four to five months before the development of the meningitis. A positive blood serology and spinal fluid serology is usually present. In choriomeningitis the patient is usually more acutely ill and the cell count in the spinal fluid is usually higher, between 1000 to 3000. In tuberculous meningitis the cell count usually is between 150 to 500. Most of the time, in tuberculous meningitis, there is other evidence of tuberculosis, especially pulmonary tuberculosis. When other evidences of tuberculosis are absent one would expect a tuberculous lymph node of the mediastinum which is ulcerated with a hematogenous spread, or there may be a miliary tuberculosis present without visible x-ray lesion. Another possibility is that old and healed lesions of the meninges may have existed for some time. In the meantime, the initial primary infection may also be healed. By the time the patient comes in with meningitis there is no evidence of tuberculosis anywhere. The cerebral lesions that have healed, of course, may have become active again producing tuberculous meningitis. The other more unusual types of infection usually do not present much difficulty because of the ease in demonstrating the organism on smear and on culture. The possibility of a brain abscess cannot be ruled out, but is unlikely because an abscess would run a more acute course with a far greater disturbance of sensorium and usually with some focal finding on neurological examination. In addition, there is nothing in the history or findings to suggest a focus of infection for a brain abscess and there was not a history of trauma. The possibility of a brain tumor has to be considered but it is unusual to find an elevated temperature in brain tumor except as a terminal event. In addition, there were again no focal findings pointing to a localized lesion. Other possibilities in a patient of this age with hypertension include subarachnoid bleeding which could produce the elevated temperature and the meningeal signs. Here, however, the onset is always acute and in the case of continued bleeding there is for the most part, clinical evidence of repeated acute episodes and the spinal fluid examinations should show the presence of free blood.

In summary, the picture is one of a chronic low grade meningitis with a family history of tuberculosis. The spinal fluid chloride content was low and there was a positive Levinson test. Neither a low spinal fluid chloride or a positive Levinson test is infallible but the combination of the two in such a clinical setting is strong evidence for a tuberculous meningitis. The presence of hypoactive deep reflexes at first with hyperactive deep reflexes later and the late development of a hemiplegia can all be part of the picture of a tuberculous meningitis. The findings at operation and also

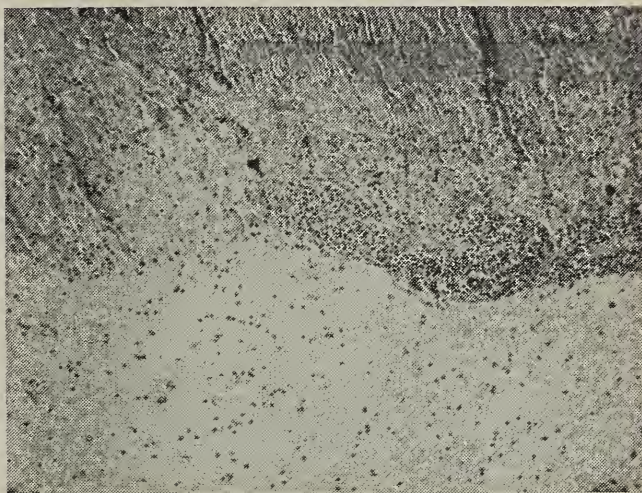


Figure 3. Photomicrograph of the cerebral cortex and subarachnoid space. The subarachnoid space is filled with exudate.

the pathologist's report on the biopsy specimen are entirely compatible with a tuberculous meningitis. This patient was placed on dihydrostreptomycin early in the course of his illness but his failure to respond to such treatment was not unusual because even the most optimistic reports do not claim improvement in more than 50 per cent of these cases where the diagnosis is made early and the combined use of intrathecal and intramuscular streptomycin is employed. With all of the evidence at hand, there is every reason to make a diagnosis of tuberculous meningitis in this case.

Dr. Willard W. Hayne: What is the Levinson test?

Dr. Frank C. Coleman: The Levinson test is a test performed on cerebrospinal fluid by taking two small vials, placing 1 cc. of cerebrospinal fluid in each, adding 1 cc. of 2 per cent mercuric chloride to one vial and 1 cc. of 3 per cent sulfosalicylic acid to the other. At the end of 24 hours the precipitate in each tube is measured. If the height of the column of precipitate in the tube containing mercuric chloride is more than twice as great as the height of the column of precipitate in the other tube, the test is highly suggestive of tuberculous meningitis. This test is not specific, however, and a positive test may occasionally be seen in some other diseases. A few years ago we obtained a positive test in a patient who had metastatic neo-

plasm in the leptomeninges. Dr. Irving, will you please discuss the x-ray findings?

Dr. Noble W. Irving, Jr.: The x-ray findings were not very helpful. The x-rays of the chest were essentially negative with no pulmonary disease. The heart shadow was within normal limits. X-rays of the spine and pelvis revealed osteoarthritis of the spine and the sacroiliac joints. The pneumoencephalogram was essentially normal. The findings described as in the report are inconclusive.

Dr. Coleman: Dr. Cash has made a diagnosis of

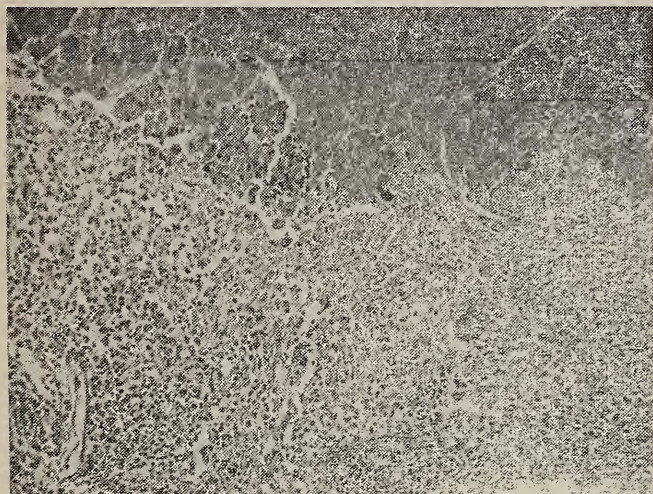


Figure 4. Photomicrograph of tuberculous lesion in the prostate gland.

tuberculous meningitis. Are there other diagnoses?

Dr. Harold R. Peasley: Epidemic encephalitis.

Dr. Hiram B. Henry: Subarachnoid hemorrhage.

Dr. Walter A. Abbott: Leptomeningeal metastases.

Dr. Hayne: Either brain abscess or tuberculoma.

Dr. Robert L. Fransway: Chronic meningococcal meningitis.

NECROPSY FINDINGS

Dr. Coleman: I will now present the autopsy findings. The body was that of an emaciated colored male which measured 74 inches in length and weighed approximately 120 pounds. External examination of the body was otherwise negative. No lesions were observed in the peritoneal cavity. A bilateral adhesive pleuritis with obliteration of the pleural space was present. Present in the periphery of the lower lobe of the right lung were three firm nodules the largest measuring 1 cm. in diameter. These nodules had soft centers and were surrounded by tough fibrous walls. Examination of the heart was essentially negative but the aorta contained many atheromatous plaques. The liver was small, weighing only 600 Gm. No lesions were observed in the spleen, pancreas, adrenal glands or kidneys. Multiple small hemorrhages were noted in the mucosa of the urinary bladder.

The prostate gland contained multiple hyperplastic nodules. The skull was of normal thickness. The dura was of normal appearance except at the site of the craniotomy in the right frontotemporal area where adhesions were present. The brain weighed 1,500 Gm. Cerebral cortical atrophy with deepening of the sulci was noted over each parietal area. Covering the base of the brain was gelatinous exudate which was especially noticeable around the optic chiasm. No exudate was noted over the superior surface of each hemisphere. Coronal sections revealed cerebral cortical atrophy with dilatation of the ventricular system.

Microscopic examination revealed the nodules in the right lung to be tuberculous lesions of characteristic histology. No breaks in the fibrous wall surrounding them could be demonstrated but such had undoubtedly occurred, as tuberculous lesions of microscopic size were observed in the adrenal glands, prostate gland, and, of course, in the brain. The subarachnoid space over the inferior surface of the cerebral hemispheres was filled with exudate which consisted of fibrin, lymphocytes, plasma cells and occasional histiocytes. Sections from the pons and optic chiasm revealed a thick layer of exudate which contained some areas with the usual granulomatous appearance of tuberculous infection with giant cell formation and fibrosis. In other areas, the exudate had a high fibrin content. There was extension of the process through the pia mater in several places into the superficial cortex.

Acid fast organisms were identified in the exudate from the brain as well as in the tissue sections. The guinea pigs which had been inoculated with spinal fluid were sacrificed a day or so after the patient expired and multiple tuberculous lesions were observed in the liver, spleen and inguinal lymph nodes.

NECROPSY DIAGNOSES

The final diagnoses were tuberculous meningitis and tuberculous lesions in the lung, adrenal glands and prostate gland.

It was our feeling that one of the pulmonary lesions was the primary site for the dissemination of tubercle bacilli to the other organs.

Dr. Fransway: What about the absence of sugar in the spinal fluid?

Dr. Coleman: On investigation, I found that this specimen of spinal fluid was obtained about 9:00 p.m. and was allowed to stand in a warm room until the next morning at which time the sugar determination was performed. This delay, I am sure, accounts for the absence of sugar, for there is a decrease in the sugar content of spinal fluid or blood after the specimen has been collected.

Dr. Bradford: Efforts were made to obtain a family history of tuberculosis, but the family denied such history until after the patient's death. It was at that time that we found out about the son with tuberculosis.

The JOURNAL of the

Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines

MISS MARY L. McCORD, Managing Editor.....Des Moines

RANSOM D. BERNARD, M.D., Business Manager.....Des Moines

MR. DON L. TAYLOR, Advertising Manager.....Des Moines

MISS JOYCE MEYER, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City

ALLAN G. FELTER, M.D.....Van Meter

DANIEL A. GLOMSET, M.D.....Des Moines

TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington

JOHN W. BILINGSLEY, M.D., Trustee.....Newton

WENDELL L. DOWNING, M.D., Trustee.....Le Mars

ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines

EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9

Vol. XLII

JULY, 1952

No. 7

NEW EDITORIAL ASSISTANT

The *Journal* is happy to welcome as assistant editor Miss Joyce Meyer, who started her work in May, 1952.

We wish at this time to express our appreciation for the work of Mrs. Marilyn McLaughlin, who has filled this position for the past two years very creditably.

OUR OFFICIAL ISSUE

This volume of the *Journal* by tradition is the annual official issue of the Iowa State Medical Society. Not only does it include the Transactions of the Society during the Annual Meeting in Des Moines in April, but also a complete Roster of Members is presented.

Again we urge our readers to familiarize themselves with the Transactions of the House of Delegates, especially those who were unable to attend the Annual Meeting. Every member of the Society may thus familiarize himself with the many facets of his Society and the magnitude of the work which the officers have carried out during the year. Likewise, it is recommended that this particular issue be used as a Desk Copy for ready reference of fellow members of the Society.

INSURANCE CREATES PROBLEMS

Americans are an insurance-minded people. We endeavor through insurance to protect ourselves against fire and flood; to protect our income in later years; to protect our family should we die early; to protect ourselves should we become sick or disabled. We insure against drought and rain, against damage we may inflict with our car and

that which may be inflicted upon us. Possibly we have come to the point where we expect to be insured against everything.

There are probably times when the people administering Blue Shield fear the latter statement is true. Each year, as Blue Shield coverage is expanded, utilization increases. It appears that doctors become more aware of what the policy covers and bill Blue Shield for services rendered to subscribers; subscribers, too, seem to adopt a philosophy of getting some return for their investment in the insurance.

When Blue Shield was first written, incomes were at a lower level than now prevails and the service feature of the contract was applicable to more subscribers. Blue Shield was written with the lower income group in mind, to be sure, and it was written to provide help for unforeseen medical expenses. The fee schedule was determined on the basis of being fair and equitable for this income group, particularly when it is realized that by offering 100 per cent collection to the doctor, he could afford to accept a slightly lower fee than under the laissez-faire system.

As incomes have increased, fewer people fall within the income limits of the policy, and the doctors are, therefore, making their customary charge for services, letting the Blue Shield fee apply. As inevitably happens, when the charge greatly exceeds the fee schedule, the subscriber is greatly dissatisfied. He feels, first of all, that his insurance is of small value if it covers so small a part of the fee, and he sometimes magnifies this to a feeling that the doctor has deliberately raised his fee because of the insurance coverage.

This is a matter of great concern to all of us. Just as the misdeeds of one physician can cast odium upon the entire profession, so can the suspicions of one subscriber be magnified until a whole group is infected.

We feel that many times the subscriber does not realize the extent of service rendered to him. If we as physicians do not inform our patients of what we do for them, in terms they can understand, we run the risk of being thought unfair in our billing. Putting ourselves in a similar position, imagine our reaction if we should receive a bill from our garage for \$250 for services rendered. Wouldn't we demand to know what the services were? Wouldn't we feel irritated?

Many of our patients are unfamiliar with illness and its cost. The man who has never had surgery before does not comprehend the many factors involved in his hospitalization and surgery. On the whole, Americans are a healthy people and to many persons illness comes as a new experience. We as physicians should not forget this fact and we should make every effort to explain possible cost to such persons.

The human touch is still the largest factor in the art of the practice of medicine. We are not engaged in commerce; we are dedicated to alle-

viating illness. Economics today plays a much larger part in medicine than it did 50 or 100 years ago, but we should be strong enough to keep pace with these added responsibilities. We are aided by marvelous new drugs and well equipped hospitals; we are experiencing a much higher rate of collection than was true even 20 years ago. Certainly we should be able to accept the aid of insurance and work with it so that we do not call down upon us the censure of our patients.

Blue Shield has a regular fee schedule for ordinary procedures. It has always asked the doctor to submit full information if extraordinary measures were employed which would justify a higher fee. If this is done, it should mitigate against subscriber misunderstanding.

Just as our so-called civilization brings new weapons and machinery with which we have to learn to deal, so does insurance create problems which we must solve. We know this can be done.

IMPROVED LABORATORY DIAGNOSIS OF AMEBIASIS

Attention has been called to the existence of a significant number of cases of amebiasis in Iowa in recent years by Hamilton and Zanala in the January, 1952 issue of the *Journal*. It has been reliably estimated that at least ten per cent of the general population actually suffer from this infection and that at least half of these have clinical symptoms of the infection. In many surveys, where improved methods of search for the organisms have been employed, the number of infected persons runs as high as 55 per cent, according to Craig. The disease is world wide in distribution and is by no means limited to tropical climates. Rather, it is a disease to be expected wherever the combination of human carriers and inadequate sewage disposal exist at the same place at the same time. These two conditions are not unknown in Iowa. It is found in significant numbers in both sexes and in all age groups.

Entirely apart from its epidemiologic aspects, the disease assumes considerable importance because of the tremendous toll it takes in terms of general poor health in a significant proportion of the population. Contrary to a generally held impression, diarrhea or dysentery are not the usual complaints of the individual with amebiasis. Constipation is far more common. In the words of Craig, "It is most unfortunate that the term amebic dysentery should have become, in the minds of most medical men, a synonym of amebiasis, or amebic infection; for while dysentery symptoms are quite characteristic of the serious cases of infection with *Endamoeba histolytica*, the vast majority of such infections are not accompanied by dysenteric symptoms, but by much milder symptoms usually attributed to some other factor, and not recognized as the result of infection with this parasite."

No one knows how many persons die of this

disease every year. It is poorly recognized and poorly reported. Certain it is, that the disease can account for a host of the chronic complaints which bring patients to the physician. A fair proportion of patients diagnosed as psychoneurosis and psychasthenia, can be shown to be suffering from amebiasis, and such symptoms as headache, fatigue, backache, anorexia, loss of memory and lack of ambition are relieved by treatment directed at the infection. Psychosomatic medicine has much less to offer the patient with amebiasis than do the amebicidal drugs.

The clinical diagnosis of amebiasis is most difficult even for physicians with wide experience with the disease. In any case, laboratory demonstration of the organism is depended upon to establish the diagnosis. This requires examination of the stool by one trained to perform the examination and able to identify the trophozoite and cyst forms of *Endamoeba histolytica*. Immediate examination of the fresh warm stool yields the best chance for a diagnosis, but even here the odds are about 3:2 against the infection being diagnosed at any one examination. Repeated examinations, some after saline purges, are required to establish the diagnosis in most chronic and mild cases.

These requirements have tended to prevent many physicians from investigating the possibility of amebiasis as often as they might prefer to do so. Brooke and Goldman have developed a method whereby stools immediately after passage can be preserved for shipment to a distant laboratory with reasonable expectation that the amebae, if present, can be stained and identified. The responsibility for instructing the patient in the collection of the specimen and its preparation for shipment remains with the physician, but for the first time, a procedure is available where a specimen of stool can be sent to a distant laboratory for examination.

The method consists of mixing freshly passed stool with a polyvinyl alcohol preparation which contains a fixative. In the laboratory the mixture can be removed, smeared on a slide, allowed to dry, stained and examined as long as months after it was collected, with the trophozoites preserved intact.

This method provides a means for the practicing physician to obtain laboratory consultation in cases of suspected amebiasis with a minimum of trouble and expense. It is no longer a practical impossibility for the physician in a rural community to obtain satisfactory examination of stools for parasites. The preparation and shipment to the laboratory are no more difficult than they are for tissues or other materials.

The physician could render no better service to approximately ten per cent of his patients than to consider and investigate the possibility of amebiasis when confronted with obscure general complaints not otherwise diagnosed. Relatively

few chronic diseases have the excellent prognosis for recovery under treatment that amebiasis has.

VOCATIONAL REHABILITATION OF THE DISABLED

The Iowa State Vocational Rehabilitation Division has been doing an invaluable piece of work in the past 31 years. It deals with people whose physical or mental limitations have rendered them incapable of earning a livelihood in our competitive economic set-up and converts otherwise indigent and dependent individuals into self supporting economic assets. Recently it has incorporated into the varied services a special program emphasizing rehabilitation of the severely handicapped including paraplegics.

Of 1000 disabled persons who are vocationally rehabilitated each year through the services of the Iowa Division, almost 20 per cent are severely handicapped. In previous years the vocational rehabilitation of such cases was not believed possible. These are persons who would be considered as permanently and totally disabled if vocational rehabilitation opportunities were not available to them. This is only a small percentage, of course, of the total number of dependent persons who could be reclaimed and converted into wage earners able to support themselves and their families as well as pay taxes.

Rehabilitation offers the positive approach as opposed to offering only a dole to the permanently disabled. This program with the severely disabled has incorporated therapy along the line of ambulation training, various methods of physiotherapy and teaching these severely handicapped individuals some vocational skill. The treatment policy has always been, and will continue to be, the utilization of competent physicians, and all physiotherapy and other medical treatment is required to be prescribed and supervised by well-qualified medical personnel.

However, whatever strides have been made in this program for the severely disabled have been accomplished in spite of terrific disadvantages. Some come from outside Des Moines and this presents the problem of living accommodations and transportation for them. The Rehabilitation Division has had to use makeshift facilities that were loaned or contributed by private individuals or groups.

As recently announced the State has made available for use two small buildings on the State Capitol grounds. This will enable the Rehabilitation Division to concentrate and centralize its activities toward rehabilitating these individuals. The Rehabilitation personnel will be calling upon the individual physicians of the community to guide the physical restoration aspect of this new training center. The activities of the center will be primarily that of training, but will need to include the problems of personal adjustment to the handicap involved as well as occupational

training. Private physicians will be used, as always, in the program, not only for the initial examination and selection of cases that are remediable but also in prescribing and supervising physiotherapy and other forms of treatment necessary for pursuance of vocational training.

The medical advisory committee, of which Dr. Channing G. Smith is Chairman, continues to advise with the administrative officers of the Division and keeps in contact with the entire operation of the program including the activities of the new training center. It is our sincere hope and belief that this project will make possible economic independence and the preservation of self-esteem for many severely handicapped persons whose outlook heretofore has been a feeling of uselessness and of being nought but a burden to society.

WORLD MEDICAL ASSOCIATION

We have just received word that the World Medical Association has procured the services of Mr. George W. Wharton to coordinate and follow through on all membership campaigns of the Association. Mr. Wharton has had long experience in this type of work.

Because the World Medical Association is a non-governmental organization, its funds are received from membership dues and voluntary contributions. At this time Iowa has only 11 members, probably because the aims and purposes of the Association have not been stressed sufficiently to our doctors. The Association represents the practicing physicians and national medical associations of the world.

The objectives of the Association as outlined in the Constitution are:

1. To promote closer ties among the national medical organizations and among the doctors of the world by personal contact and all other means available.
2. To maintain the honor and protect the interests of the medical profession.
3. To study and report on the professional problems which confront the medical profession in the different countries.
4. To organize an exchange of information on matters of interest to the medical profession.
5. To establish relations with, and to present the views of the medical profession to the World Health Organization, UNESCO and other appropriate bodies.
6. To assist all peoples of the world to attain the highest possible level of health.
7. To promote world peace.

The affairs of the Association are carried on by a Council which is elected by the General Assembly. The Council consists of the President, President-Elect and Treasurer of the Association and ten members each elected for a term of three years. The Council meets twice a year.

(Continued on page 362)

General Manager's Page

The response to our request that the various committees meet and plan their year's work immediately following the State Society Annual Meeting has been most gratifying. A summary of the plans of these various committees was presented to the Council June 26. This gives your President and General Manager an opportunity to formulate a program of activities for the coming year.

NEW PROGRAMS AVAILABLE

The Society will be prepared to furnish programs to local and county medical societies on the following subjects: mental health, geriatrics and at least six programs on industrial health. Also, the following films of our TV programs are available: "How's Your Blood Pressure?," "How To Prevent Child Problems" and "Does Your Child Hear Well?" Others, too, are coming through fast enough to take care of a moderate number of meetings.

IMPORTANT SUMMER MEETINGS

Dr. Frank C. Coleman, chairman of the Legislative Committee, and Irving W. Myers, attorney for the State Society, should be given your whole-hearted support in their series of meetings during the next three months. The results of these meetings are most vital to our legislative program.

R. S. Bernard, M.D.

General Manager

TRANSACTIONS OF THE HOUSE OF DELEGATES

1952 Session

Des Moines April 27-30

SUNDAY AFTERNOON SESSION

April 27, 1952

The House of Delegates of the Iowa State Medical Society, held in conjunction with the Society's Annual Session of 1952, at the Hotel Fort Des Moines in Des Moines, convened at 4 p. m., Dr. Eugene Smith, Speaker of the House, presiding.

The Speaker: Gentlemen, the hour of four o'clock has arrived, and the 101st annual meeting of the House of Delegates of the Iowa State Medical Society is now in session.

The first order of business will be the roll call by our Secretary.

Secretary A. B. Phillips: Mr. Speaker, I move that registration by card be accepted in lieu of the roll call.

[The motion was severally seconded, put to a vote, and was carried unanimously.]

Roll call showed the following persons present:

DELEGATES

Adams—A. W. Brunk
Appanoose—J. C. Donahue
Audubon—L. E. Jensen
Benton—J. E. Blumgren
Black Hawk—C. D. Ellyson
Boone—H. C. Scharnweber
Buchanan—R. L. Knipfer
Buena Vista—H. E. Farnsworth
Butler—F. A. Rolfs
Carroll—J. M. Tierney
Cass—R. H. Moe
Cerro Gordo—C. O. Adams
Cherokee—H. D. Seely
Clay—E. E. Munger
Clinton—R. F. Luse
Dallas-Guthrie—H. W. Smith
Davis—R. Schoonover
Decatur—G. P. Reed
Delaware—W. J. Willett
Des Moines—F. G. Ober
Des Moines—W. R. Lee
Dickinson—T. L. Ward
Dubuque—J. W. Lawrence
Dubuque—A. G. Plankers
Dubuque—D. F. Ward
Fayette—E. S. Kennedy
Floyd—C. C. Magdsick
Greene—L. C. Nelson
Hamilton—F. F. Hall
Hancock-Winnebago—C. V. Hamilton
Hardin—J. J. Shurts
Harrison—Hans Hansen
Henry—J. S. Jackson
Howard—C. A. Field

Ida—H. J. Fishman
Iowa—C. F. Watts
Jasper—J. W. Billingsley
Jefferson—R. A. McGuire
Johnson—E. J. Boyd
Johnson—R. H. Flocks
Johnson—E. F. Van Epps
Johnson—A. C. Wise
Johnson—L. H. Jacques
Jones—T. M. Redmond
Kossuth—L. O. Snook
Lee—L. C. Pumphrey
Linn—C. H. Stark
Linn—F. G. Murray
Linn—J. J. Keith
Lucas—A. L. Yocom
Madison—I. K. Sayre
Mahaska—R. E. Phelps
Marshall—O. D. Wolfe
Marshall—D. D. Harris
Monona—E. E. Gingles
Monroe—F. N. Bay
O'Brien—T. D. Kas
Page—K. J. Gee
Palo Alto—G. H. Keeney
Plymouth—W. L. Downing
Pocahontas—J. B. Thielen
Polk—M. T. Bates
Polk—F. M. Burgeson
Polk—W. B. Chase, Jr.
Polk—D. H. Kast
Polk—T. A. Bond
Polk—R. F. Birge
Polk—Fred Sternagel
Polk—H. C. Bone
Polk—H. G. Decker
Polk—G. E. Mountain
Polk—R. A. Dorner
Polk—T. B. Throckmorton
Pottawattamie—F. N. Weber
Pottawattamie—C. V. Edwards
Poweshiek—S. D. Porter
Ringgold—E. J. Watson
Sac—W. I. Evans
Scott—W. C. Goenne
Scott—George Braunlich
Scott—J. H. Sunderbruch
Story—J. D. Conner
Tama—C. W. Maplethorpe
Taylor—G. W. Rimel
Union—J. L. Hoyt
Van Buren—J. T. Worrell
Warren—L. E. Hooper
Washington—E. D. Miller
Webster—C. J. Baker
Woodbury—P. L. Bettler
Woodbury—J. W. Bushnell
Woodbury—E. M. Honke
Wright—G. E. Schnug

ALTERNATE DELEGATES

Black Hawk—L. L. Zager
 Johnson—J. M. Layton
 Polk—M. I. Olsen
 Polk—H. H. Gurau
 Scott—A. J. Lenzmeier
 Sioux—A. Bushmer
 Woodbury—A. C. Starry
 Woodbury—C. T. Maxwell

OFFICERS

President—D. C. Konzett
 President-elect—B. T. Whitaker
 Secretary—A. B. Phillips
 Trustee—R. N. Larimer
 Trustee—L. A. Coffin
 Trustee—J. W. Billingsley
 Councilor—C. C. Hall
 Councilor—C. H. Cretzmeyer
 Councilor—M. T. Morton
 Councilor—E. M. Kersten
 Councilor—H. A. Housholder
 Councilor—C. A. Boice
 Councilor—E. B. Howell
 Councilor—Oscar Alden

The Speaker: In the days when our Continental Congress was meeting in Philadelphia those men felt it was very necessary that they ask divine guidance in their deliberations. I feel that in these trying days it is very necessary and fitting that we do likewise. For that reason may I introduce to you the Reverend Dr. Alvin L. Morris, of the Central Presbyterian Church, Des Moines, who will give the invocation.

Dr. Alvin L. Morris: Shall we stand.

O God Our Father, we feel that we are indeed standing in the succession of our fathers before us, who built into the very fabric of this nation faith in God. As we stand today, Our Father, this is no mere perfunctory gesture. We stand indeed in reverence of life itself.

We thank Thee, O God, for these tremendous capacities of mind and body and spirit with which we are endowed, with which all mankind is endowed. We thank Thee for the stewardship that Thou hast placed in our hands. Help us to see the great potentialities, we pray.

We thank Thee, O God, for hospitals and nurses and doctors and surgery and science, and all of these things that we recognize are of Thee, for the meeting of human needs. We pray for these men who work together with Thee in the relief of human suffering. We pray Thy blessing upon them in the deliberations of this session. Grant, we pray, that they may have that sense of stewardship. Grant them the joy of faithful performance of that stewardship in all of their creative endeavors, for that which is most worthwhile in life.

We thank Thee for these things in the name of Christ our Saviour, Whom we call the Great Physician. Amen.

The Speaker: Thank you, Dr. Morris. Gentlemen, to say that I was overwhelmed by the honor that our Society gave me is indeed a tremendous mis-statement. I shall do everything I can as "traffic manager" to make our business function smoothly, efficiently and quickly.

At a time like this we are torn between two conflicting emotions, one to hurry on with our business so that we will have more time to enjoy this host city of Des Moines as well as the convivial and generous colleagues here, and also to visit the scientific exhibits and the professional exhibits.

But there is another phase that is even more tremendous, and that has to do with the troubled times we are in at the present time. There are forces which have been trying to change our way of life; we have met the frontal attack, and it has been more or less defeated; but there are movements on foot which we have to use every effort to combat.

As you know or may need reminding, communism states in its "blue book" that the keystone of communism in any citizenry is, first, to socialize its medicine, to spoon-feed the populace from the cradle to the grave, and then they will fall easy prey to communism or the welfare state or socialism, or whatever you might call it.

You men as delegates have a prominent and distinct duty to perform against socialized medicine in Iowa. You have been made delegates because of your eager interest in and enthusiasm for organized medicine. With that in mind you must remember that whenever you do anything, it is the thinking of probably twenty-five of your colleagues. In speaking, you speak with the tongues of twenty-five men who are not here.

It is presumptuous, of course, for me to give any hints as to how conferences should be conducted. There are a few things at the beginning of conferences that we should engrave upon our minds so that we may more easily and efficiently transact our business. They are these: First, what is the problem? Second, what is the cause of the problem? Third, what are the many solutions to the problem? Fourth, what is the best solution to the problem? When that is arrived at we can go on to the next order of business, which we will do now.

I will call for the minutes of the last meeting.

Secretary Phillips: Mr. Speaker, I move that the minutes of the Wednesday morning meeting, the annual session of 1951, be approved as printed in the July issue of the Journal of the Iowa State Medical Society.

[The motion was seconded, put to a vote, and was carried unanimously.]

The Speaker: The next order of business is the reports of officers: First we will hear the report of the Secretary, Dr. Phillips.

Secretary Phillips: Mr. Speaker, I move that the reports of the Secretary, Treasurer, Board of Trustees and the Council be approved as printed in the Handbook. All delegates have received a copy of the Handbook.

[The motion was duly seconded, put to a vote, and was carried unanimously.]

Reports of Officers

REPORT OF THE SECRETARY

House of Delegates, Iowa State Medical Society
 Herewith is the secretary's report for the year 1951:

MEMBERSHIP

The membership record of each county will be found in the tabulation which follows. There are sev-

eral points of difference in the membership this year which bear mentioning. When dues were increased to \$50 a year, it was to be expected that we might experience a drop in membership. This held true, but to a very limited degree, the total membership declining only 55, and percentagewise only 1 per cent. Eligible non-members now number 97 against 70 last year, and not in practice or retired increased from 116 to 140. Forty-eight members were lost by death. Ninety-six per cent of the eligible physicians were members of the State Society in 1951.

ONE HUNDRED PER CENT COUNTIES

This year 55 county societies were one hundred per cent in membership. They are as follows:

| | | | |
|----------------|----------|------------|------------|
| Adams | Emmet | Madison | Shelby |
| Audubon | Floyd | Mahaska | Story |
| Boone | Fremont | Marshall | Tama |
| Bremer | Greene | Monroe | Taylor |
| Buena Vista | Grundy | Montgomery | Union |
| Butler | Hamilton | Muscatine | Van Buren |
| Calhoun | Hardin | O'Brien | Wapello |
| Cass | Henry | Page | Warren |
| Cerro Gordo | Humboldt | Palo Alto | Washington |
| Chickasaw | Ida | Pocahontas | Webster |
| Clarke | Kossuth | Poweshiek | Winneshiek |
| Clay | Lee | Ringgold | Worth |
| Dallas-Guthrie | Lucas | Sac | Wright |
| Davis | Lyon | Scott | |

1951 MEMBERSHIP RECORD

| County | Members | Eligible | Ineligible | Not in Practice or Retired | Pctge. |
|----------------|---------|----------|------------|----------------------------|--------|
| Adair | 5 | 3 | .. | .. | 63 |
| Adams | 5 | .. | .. | .. | 100 |
| Allamakee | 9 | 1 | .. | .. | 90 |
| Appanoose | 10 | 3 | .. | 1 | 77 |
| Audubon | 5 | .. | .. | .. | 100 |
| Benton | 19 | 1 | .. | .. | 95 |
| Black Hawk | 92 | 2 | 2 | 2 | 98 |
| Boone | 21 | .. | .. | .. | 100 |
| Bremer | 16 | .. | .. | .. | 100 |
| Buchanan | 13 | 2 | 2 | .. | 87 |
| Buena Vista | 18 | .. | .. | .. | 100 |
| Butler | 11 | .. | .. | .. | 100 |
| Calhoun | 16 | .. | .. | 2 | 100 |
| Carroll | 23 | 1 | 1 | .. | 96 |
| Cass | 14 | .. | 2 | 1 | 100 |
| Cedar | 6 | 2 | .. | .. | 75 |
| Cerro Gordo | 58 | .. | .. | 2 | 100 |
| Cherokee | 13 | 1 | 5 | 3 | 93 |
| Chickasaw | 13 | .. | .. | .. | 100 |
| Clarke | 5 | .. | .. | 1 | 100 |
| Clay | 13 | .. | .. | 1 | 100 |
| Clayton | 10 | 6 | .. | 4 | 63 |
| Clinton | 50 | 2 | 3 | 1 | 96 |
| Crawford | 13 | 1 | .. | 2 | 93 |
| Dallas-Guthrie | 32 | .. | 1 | 2 | 100 |
| Davis | 14 | .. | .. | .. | 100 |
| Decatur | 9 | 1 | .. | 1 | 90 |
| Delaware | 9 | 1 | .. | 3 | 90 |
| Des Moines | 41 | 1 | .. | 1 | 98 |
| Dickinson | 6 | 1 | .. | .. | 86 |
| Dubuque | 67 | 3 | .. | 1 | 96 |
| Emmet | 14 | .. | .. | .. | 100 |
| Fayette | 22 | 5 | .. | 2 | 82 |
| Floyd | 17 | .. | .. | 1 | 100 |
| Franklin | 9 | 3 | .. | 1 | 75 |
| Fremont | 9 | .. | .. | 1 | 100 |
| Greene | 21 | .. | .. | 1 | 100 |
| Grundy | 14 | .. | .. | .. | 100 |
| Hamilton | 13 | .. | 1 | .. | 100 |
| Hancock- | | | | | |
| Winnebago | 18 | 2 | .. | 1 | 90 |
| Hardin | 17 | .. | 1 | 4 | 100 |
| Harrison | 8 | 2 | 1 | 5 | 80 |
| Henry | 13 | .. | .. | .. | 100 |
| Howard | 6 | 1 | .. | .. | 86 |
| Humboldt | 9 | .. | .. | .. | 100 |
| Ida | 8 | .. | .. | 1 | 100 |
| Iowa | 10 | 1 | .. | .. | 91 |
| Jackson | 14 | 1 | .. | .. | 93 |
| Jasper | 17 | 4 | .. | .. | 81 |
| Jefferson | 10 | 1 | .. | 1 | 91 |

| County | Members | Eligible | Ineligible | Not in Practice or Retired | Pctge. |
|---------------|---------|----------|------------|----------------------------|--------|
| Johnson | 204 | 15 | .. | 9 | 93 |
| Jones | 12 | 3 | .. | .. | 80 |
| Keokuk | 11 | 1 | 1 | 1 | 92 |
| Kossuth | 16 | .. | 2 | 1 | 100 |
| Lee | 38 | .. | .. | 1 | 100 |
| Linn | 117 | 8 | .. | 7 | 94 |
| Louisa | 2 | 3 | .. | .. | 40 |
| Lucas | 9 | .. | .. | .. | 100 |
| Lyon | 5 | .. | .. | .. | 100 |
| Madison | 7 | .. | .. | .. | 100 |
| Mahaska | 21 | .. | .. | 1 | 100 |
| Marion | 18 | 2 | .. | 3 | 90 |
| Marshall | 40 | .. | .. | 2 | 100 |
| Mills | 5 | 2 | 2 | 1 | 71 |
| Mitchell | 12 | 2 | .. | 3 | 86 |
| Monona | 11 | 1 | .. | 1 | 92 |
| Monroe | 8 | .. | .. | 1 | 100 |
| Montgomery | 14 | .. | .. | .. | 100 |
| Muscatine | 19 | .. | 2 | .. | 100 |
| O'Brien | 18 | .. | .. | 1 | 100 |
| Osceola | 10 | 1 | .. | .. | 91 |
| Page | 27 | .. | 2 | 1 | 100 |
| Palo Alto | 15 | .. | .. | .. | 100 |
| Plymouth | 14 | 1 | .. | 3 | 93 |
| Pocahontas | 8 | .. | 1 | 1 | 100 |
| Polk | 320 | 1 | 4 | 21 | 99 |
| Pottawattamie | 69 | 1 | .. | 4 | 99 |
| Poweshiek | 16 | .. | .. | .. | 100 |
| Ringgold | 7 | .. | .. | .. | 100 |
| Sac | 12 | .. | .. | .. | 100 |
| Scott | 105 | .. | 2 | 8 | 100 |
| Shelby | 8 | .. | .. | 1 | 100 |
| Sioux | 15 | 1 | .. | .. | 94 |
| Story | 39 | .. | .. | 3 | 100 |
| Tama | 14 | .. | .. | 1 | 100 |
| Taylor | 5 | .. | .. | .. | 100 |
| Union | 17 | .. | .. | .. | 100 |
| Van Buren | 6 | .. | 1 | 1 | 100 |
| Wapello | 49 | .. | 1 | 2 | 100 |
| Warren | 8 | .. | .. | 1 | 100 |
| Washington | 19 | .. | .. | 2 | 100 |
| Wayne | 6 | 2 | .. | .. | 75 |
| Webster | 50 | .. | .. | 1 | 100 |
| Winneshiek | 11 | .. | .. | 2 | 100 |
| Woodbury | 118 | 1 | 3 | 7 | 99 |
| Worth | 5 | .. | .. | .. | 100 |
| Wright | 19 | .. | .. | 3 | 100 |
| Total | 2464 | 97 | 40 | 140 | 96 |

NUMBER OF ONE HUNDRED PER CENT COUNTIES BY DISTRICT

| | | | |
|---------------|---|---------------|---|
| First | 4 | Sixth | 5 |
| Second | 6 | Seventh | 0 |
| Third | 6 | Eighth | 6 |
| Fourth | 3 | Ninth | 5 |
| Fifth | 8 | Tenth | 7 |
| Eleventh..... | 6 | | |

NUMBER OF ELIGIBLE NON-MEMBERS BY DISTRICTS

| | | | |
|---------------|----|---------------|----|
| First | 15 | Sixth | 8 |
| Second | 5 | Seventh | 37 |
| Third | 3 | Eighth | 5 |
| Fourth | 6 | Ninth | 8 |
| Fifth | 1 | Tenth | 4 |
| Eleventh..... | 5 | | |

The Fifth District has a most enviable record with only one county, Polk, not one hundred per cent, and that lacking one member only. With such a large number of physicians, it is no small achievement to enroll all but one physician and we hope that next year the district as a whole may be one hundred per cent.

AMA DUES

For the past three years the secretary's office has been responsible for collecting the AMA dues from our members and remitting them to Chicago. The county society secretaries in nearly every instance collect county, state and national dues at one time. Our seating in the House of Delegates of the AMA is dependent upon the number of paid members we have, and we are glad to say Iowa stands very high. It may be of interest to give a tabulation of AMA dues by districts. For brevity's sake we will list the unpaid dues.

| | | | |
|-----------------------|----|-----------------------|------|
| First District..... | 5 | Sixth District..... | None |
| Second District..... | 10 | Seventh District..... | 9 |
| Third District..... | 4 | Eighth District..... | 7 |
| Fourth District..... | 2 | Ninth District..... | 7 |
| Fifth District..... | 12 | Tenth District..... | 3 |
| Eleventh District.... | 11 | | |

LOCATION OF NEW PHYSICIANS

We are still working actively to help communities that need doctors. Most such communities are realizing their own responsibility and are making more of an effort to attract a physician. We carry fairly complete information about the communities which we give to all inquirers.

ANNUAL MEETING

Several trips to Sioux City were necessary to complete arrangements for the annual meeting last April. One trip in March netted several additional exhibitors, a material gain to the Society. Through the kindness and help of the Woodbury County Medical Society, the session proved to be most enjoyable and worthwhile.

The 1952 session will be held in Des Moines and plans are practically complete at this time for a large meeting.

COMMITTEE ACTIVITIES

Several committees of the State Society have been active during the year, and the Council and Executive Council have met several times. The secretary's office does much of the detail work for these meetings and keeps the official record of their actions.

FINANCIAL STATEMENT

All funds due the State Society have been collected by the secretary and turned over to the treasurer, and all AMA dues have been remitted to the American Medical Association.

A. B. PHILLIPS, *Secretary*.

REPORT OF THE TREASURER

The financial statement of the Iowa State Medical Society on the first day of 1951 was as follows:

| | |
|----------------------------------|-------------|
| Cash in secretary's account..... | \$ 1,000.24 |
| Savings account | 759.48 |
| Treasurer's account | —8,036.45 |
| Treasury Bonds | 14,000.00 |
| Series G Bonds..... | 27,500.00 |

TOTAL ASSETS \$ 35,223.27

During 1951 income was received from the following sources:

| | |
|---------------------------------|-------------|
| Annual session | \$ 7,389.00 |
| Discount on Treasury Bonds..... | 332.38 |
| Dues | 103,212.50 |
| Interest on bonds..... | 1,088.75 |
| Interest on savings..... | 37.47 |
| Journal—Advertising | \$16,737.08 |
| Reprints | 1,392.09 |
| Medical Service refunds..... | 2,777.00 |
| Speakers Bureau | 678.16 |
| Miscellaneous | 627.42 |

TOTAL INCOME \$134,271.85

Out of this income, the following expenditures were made:

| | |
|------------------------------------|-------------|
| Administrative Miscellaneous | \$ 4,460.73 |
| Annual Session | 7,327.16 |
| Cost of Treasury Bills..... | 9.38 |

| | |
|--------------------------------|-------------|
| Council | 1,280.81 |
| County Society Services..... | 3,198.27 |
| General Salaries | 15,067.77 |
| Journal—Salaries | \$ 5,880.00 |
| Printing & Engraving.. | 18,706.83 |
| Reprints | 1,216.53 |
| Legislative Committee | 25,803.36 |
| Medical Service—Salaries | 6,600.00 |
| Printing & Miscellaneous .. | 3,460.28 |
| Travel | 1,611.66 |
| Medicolegal | 20,545.94 |
| Other Committees | 1,215.80 |
| Rent and Office Supplies..... | 5,064.47 |
| Speakers Bureau | 4,620.34 |
| Taxes | 2,392.85 |
| Trustees | 1,106.17 |
| | 647.29 |

TOTAL EXPENDITURES \$ 99,340.34

Balance 34,931.51

Thus you will see that with our new dues structure, we were able to rebuild our surplus to the extent of \$34,931.51 this past year. This added to the balance on hand at the beginning of the year gave us a total of \$70,154.78 which was represented in the following accounts:

| | |
|----------------------------|-------------|
| Treasury Bills | \$15,000.00 |
| Treasury Bonds | 15,000.00 |
| Series G Bonds..... | 27,500.00 |
| Savings Account | 10,513.82 |
| Secretary's Account | 711.50 |
| Treasurer's Account | 929.46 |
| Option on Real Estate..... | 500.00 |

TOTAL \$70,154.78

As we start 1952, we are, therefore, in much stronger financial position than we have been. We have bought \$10,000 of Treasury bonds for the permanent surplus and we have about \$25,000 available to build the new office building which was authorized by the Executive Council.

Respectfully submitted,
N. BOYD ANDERSON, *Treasurer*.

REPORT OF THE BOARD OF TRUSTEES

One thousand nine hundred and fifty-one was a busy and eventful year for the State Society. The trustees held nine meetings, nearly all of them all-day sessions during which problems confronting the Society were discussed and decisions made. Other officers and members of the Society were invited to participate as the situation warranted.

As you know, demands upon us have increased tremendously during the last ten years and as a result it has been necessary to employ more assistance to give the service demanded by the members. Don Taylor has been with us for four years now, Dr. Bernard for nineteen months. Don has been able to cover every section of the state and acquire a good acquaintance with most of our members in that time. He has been able to explain many of the questions about Blue Cross and Blue Shield, the Veterans Home Town Medical Care Program, the projects for the Committee on Medical Service and Public Relations, and other Society problems. Dr. Bernard has pinch-hit for the president in providing a contact man for the many organizations which ask the cooperation of the medical

profession and he has established our television program which has now been on the air for seven months.

FINANCIAL STATEMENT

The Treasurer's report, which precedes ours, gives you a most encouraging picture of Society finances. Last year when the budget was set up, the trustees did not contemplate being able to add such a substantial sum to the surplus in the first year of increased dues. Allocations made to various Society departments were based on the probable activity of the department and we tried to make the figure large enough. We were wrong in only three instances.

Total income for the Society amounted to \$134,271.85, with expenditures coming to \$99,340.34. This provided a net gain of \$34,931.51 for the year.

BALDRIDGE-BEYE LOAN FUND

One new item set up in the budget in 1951 was the Baldrige-Beye Memorial Loan Fund. For the past few years the Society has received inquiries about possible loan funds for medical students. We had nothing to offer but it seemed to your trustees it might be well to convert the Baldrige-Beye award from an inactive award to an active loan fund which would provide help to needy medical students. To that end we allocated \$1.00 from each dues paid, making a total of some \$2,100 available in the first year. Three loans have been made from that fund, full details of which are given in the report of the Baldrige-Beye committee. No interest is paid until the student completes his intern year, and he then pays two per cent per annum until repayment is made. He is allowed five years from the completion of internship to repay the loan.

WAIVING OF DUES

Dues for life members have always been waived by the State Society, and in the last ten years dues for men entering military service have also been waived. These were the only exceptions made. When the cost of membership was \$10, most physicians were able to pay without difficulty, but \$50 is sometimes more than partially retired physicians feel they can afford. Some of our members, too, have had long drawn-out illnesses with resultant losses of income.

Last year the House of Delegates voted that the trustees should waive part of the \$50 dues for such physicians, the county societies to be the judge of whether the physician should receive partial exemption. This has been helpful to several of our members.

DON TAYLOR LOANED TO IOWA MEDICAL SERVICE

Early in 1951 Dr. Olsen asked the trustees if he might borrow Don Taylor to set up a bureau of physicians' relations in Blue Shield, this bureau also to provide the same service for Blue Cross. Because of Don's background, it was felt he was the logical person to train men to serve in this bureau. Since Blue Shield is, in the final analysis, our "baby," we acceded to Dr. Olsen's request and Don has been sharing time with us and Blue Shield since the first of May. This resulted in a savings in expense to us, as is shown in the budget of the Committee on Medical Service.

PENSION PLAN FOR LAY EMPLOYEES

The House of Delegates in April approved of establishing a pension system for lay employees of the State Society after a certain period of employment.

The trustees were authorized to establish such a system. The secretary and treasurer continued their work of investigating various methods of accomplishing this, and their report was given to the trustees during the summer. So far, no action has been taken on this.

OFFICE SPACE

For several years we have told you of our need for more office space. That need still exists today. At the present time part of our office force is housed on the seventh floor, part on the fifth, which is not a good nor efficient arrangement. We need about fifty per cent more space than we now have to give us an adequate working area.

We investigated several properties in 1951, some for rent and some for sale. An offer to buy was made on one building which would have been satisfactory, but the owner could not provide immediate possession and we did not want to take the building subject to the prevailing lease. Rental properties were studied and while one was satisfactory, the price was two and a half times the present figure. The Bankers Building Corporation could promise us no relief in the foreseeable future.

After considering all phases of the situation, the trustees decided the best course was for the Society to build its own building. After arriving at that decision, we went to the Executive Council in July and explained the situation. The Executive Council authorized us to buy a lot and build a building which would give the Society a permanent home. As this report is written, progress is being made and our supplemental report will give you full details of what we have accomplished.

TELEVISION PROGRAM

Since May Dr. Bernard has been preparing a television program which is given every other week over WOI-TV. An immense amount of work is entailed in each program. Many doctors have aided in the presentations and are cooperating to make them successful. This is a new avenue through which the medical profession can educate the public. Its cost is not small, and its value is as yet undetermined. We started our television programs as an experiment and we still consider them an experiment, but we do believe they have many possibilities.

FUTURE DUES

Each year we have asked the House of Delegates if it wished the activities of the Society curtailed and each time the answer has been no. Increased dues have been necessitated by the expansion of work, and if we are to continue, we will have to ask that the dues for 1953 remain \$50.

We are happy that we have been able to replace part of the surplus which was used up during the past five years, and that we have funds sufficient to make a start on our new building. It, too, will be a capital asset of the Society, something of which we can be proud.

As we end our one hundred second year of existence, we feel we should be thankful for the gains we have attained, and that we should pledge ourselves to continued service of the highest order to the people of our state.

R. N. LARIMER, *Chairman*,
L. A. COFFIN
J. W. BILLINGSLEY

REPORT OF THE COUNCIL

WHY IS THE COUNCIL?

The provision for a Council came about in the reorganization of the State Society in 1903. The Council was given certain duties; each Councilor was to be organizer of his district; districts were the same as the Congressional districts. Councilors were to inquire into the condition of the profession and be responsible for improving and increasing the zeal of the county societies and their members (Chapter 7 of the By-Laws, Section 2). By action of the House of Delegates in 1950 the same duties were continued for the Council and will be found set forth in the same chapter and section.

In accord with these objectives the Council held several meetings during 1951. At the annual meeting Dr. E. M. Kersten replaced Dr. E. F. Beeh of Fort Dodge; Dr. Wolfe was reelected chairman and Dr. Sayre secretary.

At the May 24 meeting, the chairman asked Dr. Bernard to report concerning the Woman's Auxiliary. He told of their desire for an advisory committee, and one was appointed consisting of the president-elect, the chairman of the board of trustees and the chairman of the Council. The Council assured the Auxiliary it would assist in every possible manner.

Plans were discussed for future activities of the Council. Since it is supposed to meet six times yearly, it was felt it should review the activities of other health groups and become familiar with their programs in a coordinating effort. Dr. Bernard explained how the Medical Service Committee functions; Dr. Stickler elaborated on the plans of the Speakers Bureau and asked the Council for the names of physicians who would be willing to talk to lay meetings. Mr. Crook of the National Foundation for Infantile Paralysis told of the program of that group at the May 24 meeting, and Dr. Heeren discussed the problem as seen by the State Department of Health.

The Council met again July 12 as part of the Executive Council. Dr. Sayre told of the excellent participation in the Southwest Iowa Medical Society; Dr. Agnew asked for rules and regulations for the loans from the Baldrige-Beye Fund; Miss McCord reported on an indoctrination course for senior medical students. Dr. Kersten reported on the Grievance Committee; Dr. Conzett discussed plans for establishing a preceptor system; and Dr. Lee Hill requested the waiving of license requirements for displaced physicians serving residencies in the state. Dr. Woods in answer said the Board of Medical Examiners was governed by the statutes in these cases.

Another meeting was held September 26 at which time Dr. Lee Hill presented a plan of the Committee on Maternal and Child Health to investigate maternal deaths. This was approved for a one year trial. Problems relating to the State Department of Social Welfare were referred to Dr. McCarthy of the Committee on Medical Service. The trustees presented the need for larger office quarters and the Executive Council authorized the purchase of a new building or building new quarters if feasible. Dr. C. C. Graves, Consultant on Mental Health for the Board of Control, spoke of the problems of the mental hospitals and asked the cooperation of the medical society; Dr. Olsen gave a progress report on Blue Shield; Dr. Gutch reported on the Veterans Home Town Medical Care program; Dr. Stark reported on professional relations between physi-

cians and hospitals; and Dr. Fellows reported on cooperation with the Extension Service of Iowa State College.

At the November 1, meeting, Mr. Leonard Murray of the State Department of Health explained very fully the plans and work of the Department, basing his work on authority as given in the Code of Iowa, Section 135.11. This statement, two hours in length, was given very careful consideration and the Council adopted this resolution:

"Be it resolved that the Council express its willingness and desire to cooperate with the State Department of Health in all matters pertaining to health in the State of Iowa, and be it resolved that any problems facing the State Department of Health be presented to the Council or the appropriate committee of the State Society for approval."

Following this, Dr. Smead presented a report of the activities of the Committee on Industrial Health. A full report was submitted in writing.

On January 31 the Council met again to discuss the crippled children's program. Dr. Ray Rembolt of the University and Mr. Harold Hymans of the Iowa Society for Crippled Children and Adults spoke. Other matters studied were the new preceptor program, the activities of the Committee on Industrial Health, and problems facing the State Department of Health.

The Council also sat as part of the Executive Council in determining policies to be followed by the State Society. It appears to me that not only the Council but the complete Executive Council is very much interested in the status of the profession in Iowa and is perfectly willing to render all service possible to maintain the practice of medicine on a high level without socialistic involvement.

Is the Council a necessary part of the State Society?

C. A. BOICE, *Councilor*.

REPORT OF THE FIRST COUNCILOR DISTRICT

There are ten active hospitals in this district, all but two holding monthly staff meetings. In most instances these replace the county medical society meeting. Mitchell, Floyd, Chickasaw and Butler counties hold a four county meeting from September to May inclusive. Fayette county holds a regular meeting monthly between September and May in which Clayton and Buchanan counties join. The remainder of the counties hold an annual meeting to elect officers and appoint delegates.

The district acquired one new hospital during the year, the one at Osage which opened in November, 1951.

A postgraduate course was given at Postville in November. It consisted of four weekly meetings with two speakers at each session. Doctors from Allamakee, Winneshiek, Clayton and Fayette counties attended.

C. C. HALL, *Councilor*.

Allamakee County. We have nine members in our county society, with no new doctors locating in the county during the year. Our new hospital at Waukon which opened in the fall of 1950 is developing nicely. Our members attended a postgraduate course at Postville in November, 1951. Some adjustments in our contract for medical care of the indigent were made in accord with higher costs prevailing today.

L. C. KUHN, *Deputy Councilor*.

Bremer County. We have 100 per cent membership in our county society, all 16 doctors in the county

belonging. We have several life members but no new physicians located in the county during the year.

We have no new hospital in the county. Two meetings were held during the year, but hospital staff meetings are held monthly and most of the Waverly physicians attend that.

We have no new relief contract. Our present contract calls for a 25 per cent reduction in medical fees and 50 per cent in surgical.

F. R. SPARKS, *Deputy Councilor*.

Chickasaw County. We have 13 members in our county society, making us 100 per cent in membership. No new doctors located here during the year and we have no new hospitals. We held two meetings, one the annual meeting for election of officers, the other when we entertained the Four-County Medical Society and wives. We depend on Floyd county for our scientific programs.

J. H. AHRENS, *Deputy Councilor*.

Fayette County. We have 22 members in our county society, with five eligible non-members last year. Two new physicians located in the county, both doing general practice. We have a new 25 bed addition to our hospital in process of construction, with completion set for 1953. Our county society holds regular meetings except during July and August, and we usually hold a postgraduate course each fall. In addition monthly staff meetings are held at the hospital.

We signed a new county indigent contract in May. This increased the previous fee schedule, bringing it up to the level of the Blue Shield plan.

A. F. GRANDINETTI, *Secretary*.

Floyd County. We have 17 active members and 100 per cent membership. No new physicians located here during the year. The society has regular monthly meetings and scientific programs, usually in connection with Butler, Chickasaw, and Mitchell counties. Our relief contract is unchanged and is functioning satisfactorily.

R. A. FOX, *Deputy Councilor*.

Howard County. Membership in the county medical society remains unchanged, with only one physician not a member. There has been no change in hospital nor physician status during the year. Our society meets irregularly about three times a year. There has been no change in our relief contract.

P. A. NIERLING, *Deputy Councilor*.

Winneshiek County. Our membership consists of 11 doctors, making us 100 per cent. Our society is active, with our scientific programs usually being combined with the staff meetings at the Decorah Hospital. Most of our members have attended surrounding postgraduate courses.

L. C. KUHN, *Deputy Councilor*.

REPORT OF THE SECOND COUNCILOR DISTRICT

After looking over the reports of the deputy councilors of the counties comprising the Second Councilor District, we find the district in a healthy condition and all cooperating to make the Second District one of the best medically in the state.

C. H. CRETZMEYER, *Councilor*.

Butler County. Butler county has 100 per cent mem-

bership. None moved in and we lost none during the year. We hold bi-monthly meetings at which time the Woman's Auxiliary also meets. We are cooperating actively in the Blood Donor program, and have worked with the tuberculosis and cancer societies.

B. ENSLEY, *Deputy Councilor*.

Cerro Gordo County. The membership of the Cerro Gordo County Medical Society is 58, giving us two delegates to the state meeting. Four new doctors located in the county during the year. The county medical society is very active, having meetings regularly each month except during the summer. We have a business session and scientific program, usually presented by an out-of-town speaker. Physicians from adjoining counties are always invited to our meetings and many attend.

We sponsor meetings with the Crippled Children's Society and the chest section of the Tuberculosis and Heart Associations.

We are working under our usual relief contract with the board of supervisors. The Society as a whole handles the work, not individual doctors. The arrangement seems to be mutually satisfactory and is functioning well.

L. W. SWANSON, *Deputy Councilor*.

Franklin County. We have nine members in our county medical society, with three eligible non-members. No new doctors located in the county during the year. Our fifty bed hospital has served the community for many years.

Our medical society was not very active. We attended meetings in Mason City because the smallness of our group discourages a good scientific program. We are contemplating some changes in our relief contract but nothing definite has been accomplished as yet.

W. L. RANDALL, *Deputy Councilor*.

Hancock-Winnebago Counties. Our society has been rather inactive this past year, having held only two meetings. One of our members retired from practice, selling his practice to two young physicians.

C. V. HAMILTON, *Deputy Councilor*.

Humboldt County. We have a membership of nine in our county, and gained no new doctors during the year. Our society has an average of four meetings yearly. Medical films and general discussions form the usual program. We lost one member, Dr. Asa Arent, from death. During the past year every member of the society took an active part in the cancer program.

I. T. SCHULTZ, *Deputy Councilor*.

Kossuth County. Outside of our refresher course late in the year, our activities consisted of regular business. Some twenty doctors from surrounding counties joined us in attendance at the refresher course. It was very interesting as well as instructive.

J. G. CLAPSADDLE, *Deputy Councilor*.

Worth County. All five doctors in the county are members of the county society. No new doctors located here, and we have no hospital. Our meetings are mostly social and business meetings on account of our small membership. We attend the scientific meetings in Cerro Gordo and surrounding counties. We cooperated in the immunization program and the tuberculosis case-finding program.

G. S. WESTLY, *Deputy Councilor*.

Wright County. The Wright County Medical Society has 19 members, and is 100 per cent in membership. We lost one doctor through death; one entered military service; and one new doctor moved into the county. The new municipal hospital at Clarion, with 28 beds, was opened during the year and another municipal hospital is under construction at Belmond. It is to have 26 beds. Opening date is June 1.

The county society had five scientific meetings during the year.

S. P. LEINBACH, *Deputy Councilor.*

REPORT OF THE THIRD COUNCILOR DISTRICT

As another year has rolled around, I must say that considerable has happened in my district. We have had a very good year and the facilities for hospital care have been increased and approved, and progress is being made.

Due to my enforced disability during the fall months, I did not visit all of my counties but hope to do so before the annual meeting in April.

The several counties are looking after the general health in their communities and are working with the health agencies on local levels.

M. T. MORTON, *Councilor.*

Clay County. The membership in our county consists of 12 members, all of whom are in active practice. During the year no new doctors located in the county. The county society has been very active. We hold monthly staff meetings at the local hospital, and have some type of scientific program in addition to our business meetings. We had no postgraduate course during the year. Our hospital is getting a new 47 bed addition. There has been no change in our relief contract.

C. C. JONES, *Deputy Councilor.*

Dickinson County. The Dickinson County Medical Society has five active members and two who are inactive because of poor health. There is one non-member in the county. We have had a graduate of the Royal Hungarian Medical University aiding as medical technician and intern at the Spirit Lake Hospital during the year.

Four formal meetings were held and we were host to the summer meeting of the Upper Des Moines Medical Society in August. About 100 physicians attended this meeting. We cooperated with the immunization and tuberculosis case-finding programs and have worked with the county cancer society. Our Auxiliary is small but has been very active in its efforts to recruit nurses and obtain scholarships for deserving young women interested in the nursing profession.

T. L. WARD, *Deputy Councilor.*

Emmet County. The Emmet County Medical Society has a membership of 13, two of whom are inactive. We lost one member but gained another during the year. We do not have regular monthly meetings of the county society but do have monthly staff meetings at the hospital. Our staff meetings are a great stimulus to better medicine in their scientific presentations. We had no postgraduate courses but some of our members attended courses in nearby counties.

C. S. KIRKEGAARD, *Deputy Councilor.*

Lyon County. Our membership remains the same as last year, with five doctors in the county. Because of our small number, we are relatively inactive and are

considering joining with other societies for a scientific program.

S. H. COOK, *Deputy Councilor.*

O'Brien County. O'Brien County had 18 members in good standing which makes us 100 per cent. We gained one new member. We meet about every two months and have scientific programs and films, and we also attend meetings in Sioux City, Cherokee, and the Upper Des Moines meeting at Okoboji.

We are building a new hospital in Sheldon, and in addition, we use the hospitals at Hartley and Cherokee. We are working with the local health agencies and everything seems to be going along smoothly.

T. D. KAS, *Deputy Councilor.*

Osceola County. We have six active members, two inactive, and two in the armed services. No new doctors located in the county during the year, and we have no new hospitals. Our county meets the second Thursday of the month for a scientific program consisting of a talk or film.

F. M. RIZZO, *Deputy Councilor.*

Palo Alto County. The Palo Alto County Medical Society has an enrollment of 16 members, three of whom are life members and one is in military service. One of our members plans to leave during 1952, however, to take a residency in pathology, but we are gaining a new physician in his place. Several members attended the postgraduate course at Algona. We also worked with the cancer society in presenting its film and we cooperated with the tuberculosis program also. Individual members interest themselves in the Palo Alto Memorial Hospital. They know a well organized and operated hospital is essential to good medical and surgical practice and that their interest will help keep the institution on an even keel.

H. L. BRERETON, *Deputy Councilor.*

Pocahontas County. We have eight members, a 100 per cent mark. We will gain a new physician in 1952. Our society is active, meeting monthly in the homes of the various members. This is conducive not only of very close relationship between the members but is of great assistance in solving various economic problems. We cooperate with the different county agencies and groups, and usually attend meetings in surrounding counties. Our relief contract is satisfactory.

C. L. JONES, *Deputy Councilor.*

Sioux County. We have 10 active and three inactive members. Two men have been drafted and we have no new doctors. A new 30 bed hospital has been opened at Sioux Center. The medical society meets four times a year with scientific speakers from Sioux City presenting the programs.

WM. DOORNINK, *Deputy Councilor.*

REPORT OF THE FOURTH COUNCILOR DISTRICT

The Fourth Councilor District is composed of the following nine counties: Plymouth, Cherokee, Buena Vista, Sac, Ida, Woodbury, Monona, Crawford and Carroll. The 1951 annual state meeting was held in our District.

The House of Delegates is the governing body of our state organization. If its action is to express the wishes of the component county societies the presence of all of the county society delegates is essential. That

goal was not reached so far as this district is concerned at the last state meeting. All of the Fourth District county societies are active and are effectively carrying on the program of the state organization. For that reason it is to be hoped that each county will be represented at the 1952 annual meeting in Des Moines.

Good hospital facilities are now available in the Fourth District with new or hospital additions in several of the counties. The hospital staffs are well organized in each area with all of the society members welcome on the hospital staffs. A fine spirit of cooperation exists among the members in each county and the county meetings are well attended. It would be helpful if postgraduate courses could again be held in the district in the coming year. The Speakers' Bureau stands ready to assist. A satisfactory response was had to a recent request for volunteers to speak to lay groups on health matters. The formation of local health councils is a good project for all county societies, as are local health education programs. Each county should encourage the spread of voluntary health insurance.

I would again like to express my thanks to the deputy councilors and the county society officers for their fine cooperation during the past year.

WENDELL DOWNING, *Councilor*.

Buena Vista County. The Buena Vista County Medical Society had another active year. With the opening of the new 50 bed Storm Lake Community Hospital, excellent hospital facilities are now available and the physicians of the county will have a fine place to work and meet. Alta also has a new hospital which provides additional beds for the west portion of the county. The county society meetings are held with those of the staff of the Storm Lake Hospital. The County Auxiliary is well organized and has shown increased activity during the past year. An annual county-wide immunization program is carried on.

H. E. FARNSWORTH, *Deputy Councilor*.

Carroll County. The Carroll County Medical Society had another active year. Meetings were held monthly in conjunction with the staff meetings of the St. Anthonys Hospital in Carroll. The average attendance at meetings was about 20. Members of the society were active in the Carroll Health Council and the various voluntary health agencies. Hospital facilities in the county and surrounding area are well provided for by the 150 bed St. Anthonys Hospital. Membership in the county society totals about 20 physicians and the distribution of general practitioners in the county is good. County immunization programs are held annually.

J. R. MARTIN, *Deputy Councilor*.

Cherokee County. The Cherokee County Medical Society has 14 active members and one non-member physician is active in medical work. Two new physicians located in the county during the year. No loss by death occurred. Joint meetings of the county society are held with the Sioux Valley hospital staff each month. The programs are both business and scientific. In May the society and hospital staff entertained at a dinner and program. About 35 physicians were in attendance. In December the society entertained the nurses and non-medical personnel of the hospital at a Christmas party. Several members of the State Hospital staff are active members of the county society.

The distribution of physicians in the county is good. The new addition to the Sioux Valley Hospital was opened during the year and a total of 70 beds is now available.

C. E. BRODERICK, *Deputy Councilor*.

Crawford County. A new 50 bed hospital was opened in Denison during 1951 and it is now the center of increased medical activities. County meetings were held regularly in conjunction with the meetings of the hospital staff. Three new physicians located in Crawford County last year. A county-wide immunization program was held in cooperation with the new county nurse. Socially a summer picnic was held as well as a Christmas party for the society members and their families.

R. M. JOHNSON, *Deputy Councilor*.

Ida County. The Ida County Society has nine members and two new physicians have located in the county during the year. No scientific meetings were held but several business meetings were held and were well attended. Battle Creek now has three osteopathic physicians but no medical men. Hospital facilities are located at Ida Grove and Battle Creek.

M. W. GRUBB, *Deputy Councilor*.

Monona County. The Monona County Medical Society has 11 members with one new physician locating in the county during 1951. One death occurred. Several meetings of the society were held during the year. Hospital facilities are unchanged; the Deering Hospital is operated by three of our members. The near-by Sioux City hospitals are also available. A county immunization program is held each year. Our county contract was renewed with a new fee schedule.

C. W. YOUNG, *Deputy Councilor*.

Plymouth County. The Plymouth County Medical Society held 11 meetings in 1951 in conjunction with the scientific meetings of the Sacred Heart Hospital. All but one member attends regularly. Due to his location, he attends the meetings in Woodbury County. One member, Dr. Don Walz of Le Mars, left to enter the Air Corps. The society now has 11 members and all but one are members of the AMA. One non-member is in limited practice and one non-member is retired. The new Community Hospital in Akron, built without Federal funds, was opened during the year. This 25 bed hospital is well equipped and is serving well a local area which extends into South Dakota. No new physicians have located in the county during the year and one death occurred in the membership. All of the members are active and carrying on full time practice. The society continues with a lump sum county contract to care for the indigent; this is prorated to the individual physician according to the number of families he cares for each month. Immunization and physical check-up is required of all Le Mars children before they enter school. Individual members of the society represent the society and attend the meetings of the voluntary health organizations.

H. L. VANDER STOEP, *Deputy Councilor*.

Sac County. The Sac County Medical Society had an active and busy year. Its meetings are held in conjunction with the staff of the new Loring Memorial Hospital. The society has 11 active members. No new members were added during the year and no loss by death occurred. Immunization programs were carried on in cooperation with the county nurse.

C. E. LIERMAN, *Deputy Councilor*.

Woodbury County. The Woodbury County Medical Society had another active year. The membership list totals 106 with four new physicians added during the year. Three are in general practice and one specializes in internal medicine. Six scientific meetings were held during the year with programs including panel meetings and discussions. A large number of men from near-by towns in Iowa, Nebraska and South Dakota attend regularly. The local pharmacists were guests at one meeting. We were also favored by being host to the annual meeting of the state society at its 100th meeting and we hope the society will return again soon.

Hospital facilities have improved with the opening of the new three million dollar addition to St. Josephs Hospital. This will probably be the largest private hospital in Iowa. About 1,000 hospital beds are now available in the county, all being in Sioux City. New additions to the other three hospitals are in the making, however, Federal grants are slow in materializing.

The county indigent clinic is running efficiently and the budget has been increased. Our tuberculosis clinic and hospital are well staffed by members who are interested in this work. They have in mind a new program which has been presented to the state society. It consists in taking chest microfilms of all hospital admissions in order to track down any disease which is ordinarily found by routine chest x-ray. Our Woodbury County Woman's Auxiliary continues very active.

DONALD BLUME, *Deputy Councilor.*

REPORT OF THE FIFTH COUNCILOR DISTRICT

In the fall of 1951, all deputy councilors of the Fifth District met for dinner to discuss the activities of the State Society for the coming year. All were present but one, and all showed a keen interest in the work of the Society and evidenced a great willingness to do whatever they could to further the interests of medicine. In the discussion, the duties of the deputies were brought out, since most of them wanted to know what was expected of them. The meeting seemed to be most successful and each deputy has cooperated in encouraging the necessary activities in his local society, as will be evidenced by the attached reports.

E. M. KERSTEN, *Councilor.*

Boone County. The Boone County Medical Society held monthly scientific meetings in conjunction with the Story County Medical Society. Attendance averaged better than 75 per cent of the two memberships. Very interesting scientific programs were presented.

Members of the society cooperated with the tuberculosis association in its campaign, conducted their annual physical examination of 4-H Club members and school children, and sponsored the usual immunization program.

We lost one member, Dr. Gamble, through death, and gained one new member. All 19 physicians in the county are members of the society. We were highly honored by the elevation of Dr. Ben T. Whitaker to the office of president-elect and know he will give this office the same devotion he has exhibited throughout his years of practice.

H. C. SCHARNWEBER, *Deputy Councilor.*

Calhoun County. The membership of the Calhoun County Medical Society is 16. We gained one new member. Our society was not active last year, holding only one meeting. We are, however, planning to have

regular monthly scientific meetings this year. There was no change in our relief contract.

J. H. FAUST, *Deputy Councilor.*

Dallas-Guthrie Counties. The membership in our Society consisted of 31 physicians in the county and two retired living elsewhere. During the year we admitted three new members but lost two of our resident members and one of those living elsewhere, and two physicians left the county, so that at the end of the year our membership was 29. We hold five meetings a year, on the third Thursday of September, November, January, March and May, with approximately 60 per cent attendance. We have a business meeting, dinner, then scientific program.

A new hospital was opened in Guthrie County under the Hill-Burton bill. It has 30 beds and eight bassinets. It is a county hospital.

Our contract with the board of supervisors is on a fee basis and on the whole, the fees are adequate for the indigent patients.

Our Woman's Auxiliary is active, meeting with us for dinner and holding its own program during our scientific meeting.

C. A. NICOLL, *Deputy Councilor,*

A. M. COCHRANE, *Deputy Councilor.*

Greene County. Our society consists of 20 members, two of whom are in military service. We lost one physician by death and gained two new members during 1951. Our county hospital has been expanded from 35 bed to 65 bed capacity through the construction of a new wing. We are moving into the new wing although remodeling of the older part is not yet completed. Our new obstetrical suite and delivery rooms are standard and are air-conditioned, as are the surgical operating rooms.

Our society is active, meeting monthly. In addition we have a monthly staff meeting at the hospital with a scientific program. We have a contract for care of the indigent, funds being paid to the society and used for medical education and projects contributing to better professional knowledge and service. From these funds we have contributed to the building of the new hospital wing; we are equipping and furnishing a fine new medical library; have purchased a sound projector for medical films, and have financed the presentation of several out-of-town medical speakers.

The society cooperates with the local tuberculosis chapter in its case-finding program.

We believe our society has had a most worthwhile year and has accomplished a great deal for better hospitalization and medical care in our community. This has been made possible through the aid and cooperation of our citizens, and no small debt of gratitude is due them.

E. D. THOMPSON, *Deputy Councilor.*

Hamilton County. Our membership has remained the same during the past year, although one member has been incapacitated by illness. We need more physicians in the county. The bright spot of the year was the start of construction of an addition to and remodeling of our county hospital which will increase our bed capacity to 85 persons. Our society has been active, with regular monthly business and scientific programs. In addition we have a luncheon meeting each week. There has been no change in our relief contract. As a society we are enthusiastic over the preceptorship

program being inaugurated at the University and pledge it our support.

B. F. HOWAR, *Deputy Councilor*.

Polk County. The Polk County Medical Society reported 320 members to the State Society in 1951. Of this number about 230 are active. The dues of thirty-three life members and about fifty resident physicians and members in military service were waived. Forty-seven new members were admitted to the Society of whom Doctors Walter Anderson, James Clark, Rudolph Duewall, Paul Hart, Earl Redfield, James Taylor and Elmer Vorisek are in active practice. The balance of the new members are resident physicians or interns in local hospitals. Five Des Moines physicians died during the year, three of whom were active at the time, Rodney Fagen, Leslie Nourse, Erwin Schenk, Hugh Woods and William Johnston, resident physician at Veterans Hospital. All eligible doctors of medicine residing in the County held membership in the Society or had applications pending at the close of the year.

During the year the new wing of Iowa Methodist Hospital was completed adding forty-eight medical and surgical beds and twenty-seven psychiatric beds. The new wing at Iowa Lutheran Hospital was opened making available another sixty beds. Broadlawns Polk County Hospital has remodeled a part of one floor to provide five detention rooms for psychiatric patients.

The Society continues to provide the attending staff at Broadlawns Hospital. Our members care for the indigent patients in their homes through a working agreement with the Board of Supervisors and the Society provides a Consultant Committee to the Welfare Department in the Aid to the Blind and Aid to Dependent Children programs.

The Society held eight scientific meetings during the year with an average attendance of about 130 members. In addition, the Veterans Hospital held monthly scientific postgraduate lectures during the winter months, and three meetings of the Iowa Academy of General Practitioners were held in Des Moines during the year. Top-flight guest speakers were invited to our county society meetings.

Our Centennial Day celebration, on October 24, consisted of a luncheon meeting, two excellent scientific lectures during the afternoon, a social hour and an evening dinner attended by 360 members, their wives and invited guests. The evening program consisted of an historical review by Doctor Walter L. Bierring and an address by Doctor George F. Lull, General Manager of the American Medical Association.

The Society takes an active part through its representatives in many community organizations in the field of health.

Our Public Relations Committee had constant contact and at least one conference during the year with representatives of the labor groups. It has met with representatives of radio and press for the purpose of mutual understanding of some of the circumstances which arise.

The first full-time director of public health for the City of Des Moines and, by agreement with the County Board of Health, the County, has been established at City Hall.

We distributed a very effective Better Business Bureau pamphlet "Facts You Should Know About Health Cures" and prepared and distributed through the Welcome Wagon hostesses and other mediums a very timely and effective pamphlet describing medical

facilities of the community and publicizing our emergency telephone service.

The Auxiliary sponsored the selling of homemade products for the Iowa Society for Crippled Children and Adults and also was active in promoting the registration of doctors and in getting out their vote.

M. T. BATES, *Deputy Councilor*.

Story County. Boone and Story medical societies have held joint meetings during the year, as has been the custom for many years. All but the midsummer picnic meeting are scientific in nature, with speakers from outside the counties.

We lost one physician by death and gained one during the year. Two new hospitals have been opened, the Story County Hospital at Nevada of 52 beds and 11 bassinets, and the Story City Municipal Hospital of 16 beds and five bassinets. All doctors in the county are members of the county society. We are cooperating with the blood donor program, school immunization program, preschool examinations and 4-H Club physical examinations. We received a small increase in our relief contract.

JOHN D. CONNER, *Deputy Councilor*.

Webster County. The meetings of the Webster County Medical Society for the year were held with almost monthly regularity and covered such topics as treatment of atomic bomb casualties, the use of the various anesthetics, the care of acute anterior poliomyelitis, and the diagnosis and care of low back pain. The speakers for these meetings were secured from local membership, by cooperation of the State Society and University, and the National Polio Foundation.

In this past year two new physicians have located in the county, bringing the total membership of the county society to 46. During this same period of time two physicians retired from active practice, thus equalizing the total membership.

The contract held with the board of supervisors of Webster county for the care of the indigent was the same as for 1950 and was considered adequate by all concerned.

During the year the Society cooperated with the Mobile Blood Unit brought in by the local Red Cross chapter and continued its close affiliation with the local tuberculosis and heart association, cancer association and the lay committee for the care of infantile paralysis.

C. J. BAKER, *Deputy Councilor*.

REPORT OF THE SIXTH COUNCILOR DISTRICT

The distribution of doctors in the Sixth Councilor District is fairly good at present. A year ago many smaller communities feared loss to the armed services but few of these have been called. Many of these smaller towns have either a very young doctor who is eligible for military service or an elderly doctor who is able to conduct a limited practice. Time or a national emergency could seriously affect medical care in these areas.

Grundy county will have its new hospital near completion in the spring of 1952. This is a prosperous county that needs and can support a hospital. At present there are no non-medical practitioners of the healing arts in Grundy Center or the immediate vicinity.

There has been little activity in the district as a whole. The district meeting a year ago was poorly attended and a similar project was deemed inadvisable

this year. A postgraduate conference is planned to be held at Grinnell in March. Poweshiek and surrounding counties are sponsoring and financing the course. Dr. Korfmacher is making all arrangements, including the program.

An attempt has been made to organize Auxiliary meetings in counties not having them but the plan has met with failure. Auxiliary activity shows little promise in the smaller counties for the present.

Because this is an election year on national, state and local levels, it is anticipated that 1952 will be a much more active year than was 1951.

O. D. WOLFE, *Councilor*.

Benton County. The annual meeting and election of officers of the Benton County Medical Society was held January 24, 1951. The Councilor was present at this meeting. A joint meeting of physicians and pharmacists was held in Vinton on April 12, 1951.

We lost one member by death during the year; one moved from the state; and we gained one physician.

N. C. KNOSP, *Secretary*.

Black Hawk County. Although three of our members are currently in the armed forces, we have a surprisingly large number of new doctors in our county. We lost two physicians by death, one a young man returning home after being advised he had been called to the Service Command at Omaha by mistake. Some of our older men have been forced into semi-retirement by illness. A large majority of our new physicians are specialists.

We held ten regular meetings during the year, and three special ones were called to discuss medical insurance problems. Our Executive Committee meets often to expedite the business of the Society.

D. W. BICKLEY, *Deputy Councilor*.

Grundy County. The Grundy County Medical Society had a very active year. The building of our new memorial hospital has increased the interest of our doctors. Whereas we used to hold one meeting a year, this year we held seven or eight. Our November meeting honored our two 50 year men, Dr. McDowell of Grundy Center and Dr. Spain of Conrad. Dr. C. B. Larson of Iowa City was the speaker.

We have 14 members in our society. One of them was called back into military service but on the whole the county is fairly well cared for medically except for Dike. We expect our hospital to be opened sometime this spring and it will be a great help to the doctors of the county.

E. A. REEDHOLM, *Deputy Councilor*.

Hardin County. The Hardin County Medical Society held eight meetings during the last year with an average attendance of 75 per cent. Due to our small size, we have been hesitant to ask speakers to address us, so have purchased a Bell and Howell movie projector and have been showing medical films at our meetings.

We have seventeen members, one of whom is now in military service, and one is doing a limited practice. Most of our communities have adequate medical care.

Very few health meetings have been held. We have a fairly active cancer society which has done a good job in education, primarily in making available the film "Self Examination of the Breast." Meetings of the Health Council have not been well attended. The county society authorized x-rays of all food handlers

in the county and cooperated in the Red Cross Blood Bank program in October.

L. F. PARKER, *Deputy Councilor*.

Iowa County. The Iowa County Medical Society was not very active during 1951, not meeting bi-monthly as had been contemplated. We lost two members, one by death and one by removal. Sixty per cent of our members attend the Linn County scientific programs nine months of the year.

The members of the society participated in the immunization and the tuberculosis case-finding programs, and contributed liberally of their time and efforts to the election on a new memorial hospital. The issue carried, bonds have been sold, the architect's drawings are complete, and contracts are to be let soon. A Woman's Auxiliary was voted down.

C. F. WATTS, *Deputy Councilor*.

Jasper County. Jasper County has 17 active members. One new doctor located here during the year and we lost one temporarily to military service. We could support doctors at Sully, Baxter and Monroe. The county medical society has continued its sponsorship of the preschool examination of children and annual immunization programs each fall.

J. W. FERGUSON, *Deputy Councilor*.

Marshall County. The Marshall County Medical Society held nine meetings during the past year and enjoyed several outstanding scientific programs. The Woman's Auxiliary met with us in May for a social evening.

Various members of the Society again donated their time generally on various projects such as the immunization program, Red Cross blood donor drive, etc. One, Dr. Sauer, was instrumental in eliminating a serious traffic intersection hazard that has taken several lives during the past few years. He devoted a great deal of time and effort to this and is to be highly commended.

We lost one physician by death, one by removal from the state, and added one new member during the year. The dispersion of doctors through the county seems to be adequate.

R. C. CARPENTER, *Deputy Councilor*.

Poweshiek County. The Poweshiek County Medical Society held four meetings during the year with a very good attendance. The programs for the June and September meetings were furnished by the Speakers' Bureau, the June meeting covering the diagnosis and treatment of common skin disorders, the September on handling unusual problems in obstetrics. We gained one new member during the year.

S. D. PORTER, *Deputy Councilor*.

Tama County. The Tama County Medical Society, with 100 per cent membership, held six regular meetings during 1951 with an average attendance of 76.1 per cent. The society is composed of 14 members, three of them life members. Two are no longer actively engaged in practice. We gained one new physician during the year.

Because of our small membership we do not have guest speakers but use scientific films. These provide us a very satisfactory program. Members of the society conducted an immunization program and participated in the Crippled Children's Clinic held in Marshalltown. We have no chapter of the Woman's Auxiliary. Although we have no hospital in the county, we

are accorded courtesy staff privileges at hospitals in the surrounding counties.

A. J. HAVLIK, *Deputy Councilor*.

REPORT OF THE SEVENTH COUNCILOR DISTRICT

Clinton County. The county society has been very active in the Tumor Clinic, purchasing a camera and all facilities for taking pictures, and also microfilm and a projector. We also conducted an immunization program.

During the year we lost several doctors, three by death, two by removal and two have had to limit practice because of illness. The county needs two more general practitioners.

R. F. LUSE, *Deputy Councilor*.

Delaware County. The Delaware County Medical Society met seven times during 1951, with guest speakers from Cedar Rapids presenting scientific programs. Scientific movies were also shown on two occasions. The meetings this fall have followed our staff meetings.

Membership for the year has remained about the same. We haven't lost any members but did gain one new physician. Some of our members have attended meetings outside the county. Now that the new Delaware County Memorial Hospital is in operation we find it a stimulus to the society as well as to the members.

W. J. WILLETT, *Deputy Councilor*.

Johnson County. Eight regular meetings and the annual meeting of the Society were held in 1951. Scientific programs were presented by our own members and some from outside Iowa. Attendance varied from 86 to 132.

Our membership breakdown for the year is as follows: Life Members, 8; active members, 169; affiliate and associate, 15; junior, 2; non-resident, 3; and in military service, 6; making a total of 203.

E. J. BOYD, *Secretary*.

REPORT OF THE EIGHTH COUNCILOR DISTRICT

Des Moines County. The Des Moines County Medical Society has a membership of 41. Two new doctors located here but we lost one who left for active duty with the U.S.P.H.S.

Mercy Hospital is now completed, giving us a very complete pediatrics ward, physiotherapy department, besides many additional beds and facilities not previously enjoyed. The Burlington Protestant Hospital addition is under way but has been delayed due to steel shortages. The St. Francis Hospital contract has been let and construction will start soon. The society holds regular monthly meetings. We had six guest speakers, and local men provided the balance of the programs. We cooperated with the department of public health in the immunization program and in addition sponsored a cerebral palsy clinic.

All in all, we feel we have had a successful year. We had 100 per cent membership and hope we may continue to do so.

F. G. OBER, *Deputy Councilor*.

Henry County. We had 13 members in 1951. We lost one member but gained another. We held ten scientific and one social meetings; sponsored a chest x-ray program using the mobile unit; and continued the school

immunization program. The members of the society have been active and have taken a great interest in both local and national affairs.

J. S. JACKSON, *Deputy Councilor*.

Jefferson County. Our membership remains the same as last year, with no changes. The society has been active, holding regular meetings and sponsoring a cancer institute last October which was well attended. Our relief contract has been the same for several years. Each member assumes the work for a month; bills are approved by the welfare office and paid by the supervisors. We have an active Woman's Auxiliary which meets at the hospital.

R. A. MCGUIRE, *Deputy Councilor*.

Upper Lee County. The Lee County Medical Society held four quarterly meetings during 1951, alternating between Fort Madison and Keokuk. Guest speakers presented part of the programs—local men the balance. The drive for funds for the million dollar expansion for Sacred Heart Hospital at Fort Madison went over the top. There was no change in our relief contract.

R. L. FEIGHTNER, *Deputy Councilor*.

Lower Lee County. The Lee County Medical Society had 37 members at the end of 1951, which made us 100 per cent. We lost one physician by death, one by removal, one to the armed forces, and gained one new member. The new wing of Graham Hospital in Keokuk has been completed and opened.

L. C. PUMPHREY, *Deputy Councilor*.

Louisa County. There was not much activity in the society during the year. Only one meeting was held, two being canceled because of bad weather. Only one member has paid state and national dues for the year, and he, with the one life member, constitute our membership in the State Society.

J. H. CHITTUM, *Deputy Councilor*.

Muscatine County. The Muscatine County Medical Society met four times during 1951. Business in connection with a new county hospital was the chief topic of discussion at all meetings. Construction of the hospital is scheduled for early 1952, with completion in the summer of 1954.

Most of the members and their office assistants enrolled as a group in Blue Cross-Blue Shield during the past year.

We lost one member by death, and have gained none. In general there is a very good spirit of cooperation in the society and the men work well together. We expect a good year in 1952.

C. P. PHILLIPS, *Deputy Councilor*.

Scott County. Membership in our society reached 103, with seven new doctors locating here during the year. St. Luke's hospital addition should be completed in the spring of 1952, and work on the Mercy Hospital addition will probably start soon.

The society has been very active and has had scientific programs at each meeting and almost 100 per cent attendance. The December meeting was devoted to Blue Cross-Blue Shield. Our relief contract will be continued unchanged.

P. A. WHITE, *Deputy Councilor*.

Van Buren County. The Van Buren County Medical Society held four meetings during 1951, with a guest speaker at the December meeting. We have only four

members and it is rather hard to develop a great deal of interest in the meetings. We immunized all the school children in the county, and all of us will be glad to talk on medical problems.

L. A. COFFIN, *Deputy Councilor*.

Washington County. The Washington County Medical Society held nine meetings during 1951 with a relatively good attendance. Two of our members were honored for long service during the year. We had no deaths and we gained one new physician.

E. D. MILLER, *Deputy Councilor*.

REPORT OF THE NINTH COUNCILOR DISTRICT

Appanoose County. Our society has been rather inactive during the year, having held only one scientific meeting at the time of the Crippled Children's Clinic when we were hosts to surrounding counties. We have gained no new physicians and lost one retired physician through death. We do plan a better year for 1952, with medical society meetings scheduled along with hospital staff sessions. The Speakers' Bureau has promised us good speakers and we hope to be more active. Possibly the illnesses of some of our members this past year is justification for our inactivity.

E. A. LARSEN, *Deputy Councilor*.

Davis County. We lost three physicians by death in 1951 but gained three new ones. The usual number of meetings were held, and we cooperated in an immunization program and worked with the tuberculosis and cancer groups.

H. C. YOUNG, *Deputy Councilor*.

Keokuk County. We have eleven members, three of them life members, and only one eligible doctor in the county does not belong. We have one new physician but also lost one by removal. A new hospital is being planned for Sigourney and money is being accumulated for it.

We held four meetings during the year, mostly social and business without a scientific program. Our relief contract remains practically unchanged.

D. L. GROTHAUS, *Deputy Councilor*.

Mahaska County. We had 21 members in 1951, losing one by death, but adding one at the end of the year. One doctor retired and left the state. Four meetings were held, two being scientific, one devoted to civil defense and one to public health. We have no relief contract. We have two hospitals both of which are operating at full capacity.

E. B. WILCOX, *Deputy Councilor*.

Lucas County. The Lucas County Medical Society had no scientific programs during 1951 but held regular monthly meetings. Several members attended programs in surrounding areas. Our membership remains unchanged, and the hospital and nursing facilities are the same.

R. E. ANDERSON, *Deputy Councilor*.

Monroe County. Our membership was 100 per cent in 1951. We have no new physicians. Our county hospital is nearly completed but the opening date has not been set. We have no relief contract and most of the indigent patients are sent to the University Hospitals for hospitalization and surgery. We experience considerable difficulty in getting a sufficient grant for our Old Age Assistance patients.

H. J. RICHTER, *Deputy Councilor*.

Wapello County. The Wapello County Medical Society has sustained a vigorous, well-balanced and progressive program of activities during the past year. All doctors in the county are members of the society. Eight regular meetings are held each year, on the first Tuesday of the month beginning with September and continuing through April. These are dinner meetings held at St. Joseph Hospital, followed by a scientific program with guest speakers. Doctors from an area of fifty miles attend.

Regular hospital staff meetings are held at noon luncheons on the second and fourth Tuesdays of the month. These are also well attended. Our Tumor Clinic is held every Saturday morning at the Ottumwa Hospital. Breakfast is served at 7:30 and the average attendance is 16.

Our county society numbers 53, of whom 37 practice general medicine and surgery and 16 are specialists. We have one associate member. We gained seven members during the year and lost two by death.

Our relief contract is up for revision at the present time.

Jointly responsive to all problems of medical concern to the physicians is the Woman's Auxiliary. This highly organized and efficiently managed society has a paid-up membership of 44. This group donated \$500 to the new Ottumwa Hospital Completion Fund and shipped two 40 pound boxes of warm clothing and blankets overseas. Meetings are held at the same time as the society meetings.

One outstanding meeting of the year was an inter-professional get-together to which all doctors, dentists, veterinarians, druggists, nurses, and wives were invited. Another outstanding meeting was that of the Ninth Councilor District called by Dr. Howell.

Our new Ottumwa Hospital is nearing completion. Furnishings, laboratory and scientific equipment will be of the very best. Its 136 beds will be open about March 1.

A county health unit is under discussion, as is a crippled children's clinic. Our Society owns its Blood Bank and employs a full-time pathologist. We cooperated in the Immunization campaign, preschool examinations, March of Dimes, Blue Cross and Blue Shield, AAPS and its essay contest, and the tuberculosis case-finding program. It has been another good year in Wapello County.

C. A. HENRY, *Deputy Councilor*.

REPORT OF THE TENTH COUNCILOR DISTRICT

Adair County. A summation of the year's activity shows no new doctors locating here during the year and the present membership somewhat divided in its payment of state and AMA dues. We sponsored one scientific program as a part of the Southwest Iowa Medical Society. This meeting was held at the Adair County Hospital. Other scientific work has been done in connection with staff meetings. Our new hospital has been most satisfactory in caring for the medical needs of our people. We cooperated in the Red Cross blood procurement program.

A. S. BOWERS, *Deputy Councilor*.

Adams County. We have one hundred per cent membership. No new physicians located here during the year. Our new Rosary Hospital at Corning was opened about May 1. The medical staff consists of the members of the medical society, with doctors from surrounding areas being on the active and courtesy staff. The staff

meetings held the first Monday of the month have provided our scientific meetings, together with the programs of the Southwest Iowa Medical Society. We sponsored one of the latter meetings during the year.

A. W. BRUNK, *Deputy Councilor*.

Clarke County. Since the reincarnation of the Southwest Iowa Medical Society, our society has had only regular yearly business meetings. We have no new members and our group is small. We intend to cooperate with the preceptorship program of the College of Medicine. Clarke County is building a new modern 32 bed hospital. At present it is half completed and we hope to occupy it within a year.

H. E. STROY, *Deputy Councilor*.

Madison County. The Madison County Medical Society has 100 per cent membership, a total of seven. One member is now in military service. We hold a few meetings each year to discuss our own problems and we also attend the Southwest Iowa Medical Society meetings and those in Des Moines. Our new Madison County Memorial Hospital continues to give excellent service and it is well patronized.

C. B. HICKENLOOPER, *Deputy Councilor*.

Ringgold County. In a county with four practitioners it is difficult to report much activity. Our hospital opened in April and it is doing as well as we could expect. Meetings of the society are usually held in conjunction with the staff meetings and are more business than scientific meetings. We lost two physicians during the year.

Members have attended society meetings elsewhere.

E. J. WATSON, *Deputy Councilor*.

Taylor County. We in Taylor County feel we have one of the best societies, for its size, to be found anywhere. The five eligible members in the county are all members. We meet the second Monday of each month and always have a scientific program and usually four of the five members are present. We also take our turn in providing a program for the Southwest Iowa Medical Society.

We are cooperating in the immunization and blood procurement programs. We are handicapped by having no hospital in the county, but our members are on the staffs of hospitals in neighboring counties.

G. W. RIMEL, *Deputy Councilor*.

Union County. We have twelve members for a one hundred per cent mark in our county. Our society is active, and meets every two months with the Southwest Iowa Medical Society.

C. C. RAMBO, *Deputy Councilor*.

Warren County. We have eight members in our county society, one new physician having located here during the year. We are 100 per cent in membership. With no hospital, we do not have staff meetings to provide scientific programs and so we attend meetings in Polk County and also the Southwest Iowa Medical Society. We hold one or two business meetings yearly. Our relief contract is unchanged.

C. H. MITCHELL, *Deputy Councilor*.

REPORT OF THE ELEVENTH COUNCILOR DISTRICT

The district held one meeting in Council Bluffs, at which the Pottawattamie County Medical Society was

host. It was most successful and the wish was expressed that two similar meetings might be held each year, at opposite ends of the district so as to bring them close to each physician.

Following are the reports of the different counties in the district:

OSCAR ALDEN, *Councilor*.

Audubon County. We now have six members in our county society, having gained one new physician this year, giving us 100 per cent membership. We hold about four meetings a year, usually devoted to business, with occasionally scientific papers. Most of us attend staff meetings at Carroll. Our relief contract seems to be stabilized and is functioning satisfactorily.

The Audubon County Memorial Hospital is under construction and should be open in September or October of 1952. It will contain thirty beds.

L. E. JENSEN, *Deputy Councilor*.

Cass County. We have 14 members in our county society, making us 100 per cent. No new doctors located here during the last year. Our county society is active, with guest speakers for each meeting.

W. F. GIEGERICH, *Deputy Councilor*.

Fremont County. All nine eligible doctors in the county are members of the society, making us 100 per cent in membership. We have no new hospitals and our society has been inactive.

RALPH LOVELADY, *Deputy Councilor*.

Mills County. Our county society is not very active. With only five members, we go to Council Bluffs for our scientific meetings.

T. E. SHONKA, *Deputy Councilor*.

Montgomery County. Our membership is 100 per cent with 14 members. We held nine meetings during the year, with six scientific programs. We lost one doctor who left to take a residency in pathology.

E. L. CROXDALE, *Deputy Councilor*.

Page County. Page County Medical Society had 100 per cent membership with 23 active members, three life members, and one in service. We have no new doctors in active practice although some are on the staff of the state hospital and are not yet eligible. We held seven scientific meetings during the year, and one business meeting, with an average attendance of about 20. Meetings alternate between Clarinda and Shenandoah. We lost one member through death.

C. H. FLYNN, *Deputy Councilor*.

Pottawattamie County. During the year we had 70 active members, one associate and three new members, making a total of 74. We lost one member by death.

A two story addition has been made to the Jennie Edmundson Memorial Hospital, adding approximately 50 new beds, and we have in prospect an addition to St. Bernard's Hospital which would double its capacity.

The Society membership has been active during the year, holding monthly meetings consisting of scientific programs presented both by members and guest speakers. One meeting included the entire district. Some of the State Society officers were present at this meeting, as was the Councilor.

G. N. BEST, *Deputy Councilor*.

Reports of Standing Committees

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

At the second meeting of the House of Delegates at Sioux City, the following amendment to Chapter 5, Section 2 of the By-laws was read, and referred by the speaker to the Committee on Constitution and By-laws: "On the first day of the annual session there shall be elected a committee on Nominations, consisting of eleven delegates, one from each councilor district. Such Committee shall be selected by the delegates of each councilor district in separate caucuses.

"It shall be the duty of this Committee to consult with the members of the Society and to hold one or more meetings, at which the interests of the Society and the profession of the State for the ensuing year shall be carefully considered.

"The Committee shall report the results of its nominations to the House of Delegates. It shall submit the names of one or more members of the Society for each office to be filled at the annual election. No two candidates for President-elect shall be named from the same county."

Your committee recommends that the above proposed amendment be rejected.

GEORGE C. ALBRIGHT, *Chairman*,
H. C. SCHARNWEBER
J. B. PRIESTLEY

REPORT OF THE GRIEVANCE COMMITTEE

The House of Delegates of the Iowa State Medical Society in 1950 set up amendments to the by-laws of the Society which established the Grievance Committee. The Grievance Committee consists of eleven members, one from each councilor district. Members are appointed for a term of two years, and the committee changes five members one year and six the next alternately. The purposes of the committee are in brief to act as the Society's grand jury for investigation of complaints or initiation of investigations concerning professional conduct and ethical deportment. It is also the duty of the Committee to prepare for issuance to the entire membership, in bulletin form, periodic reports on the profession with respect to professional work, ethical deportment, and public relations in general.

Since its organization the Grievance Committee has met every month or two regularly. A quorum of the committee has always been present. Usually eight or nine members of the committee are on hand no matter how bad the weather. All meetings are held in Des Moines since it is the most central location from the transportation standpoint for a statewide committee to reach. It requires approximately a full day of each member's time for each committee meeting, counting transportation time although in some instances members from the far corners of the state give more time.

To date fifty-four complaints have found their way to the Grievance Committee. All have been investigated by the committee, either in person or by letter, and all but a dozen have been settled. Several of the latter number are still under investigation. Many of the complaints have been adjudicated after each party understands all phases of the situation.

Some complaints are concerned with the financial problems of the practice of medicine. In all of these

the members of the Society have been most gracious in offering to settle in accordance with the suggestions of the committee. A few instances of malpractice have been alleged, but to date none have been substantiated so far as the committee knows. In some instances the patient has appeared to be making threats to avoid payment of a just obligation. Many of the complaints have originated as the result of improper remarks by physicians or others who were obviously not qualified to judge the situation from all angles. This has led the committee to urge members of the profession as a whole not to judge the work or results in any given case without knowing all of the facts in the situation.

The Grievance Committee hopes to be able to continue its work in adjusting difficulties between patients and physicians so that increasingly better medical care can be available to every resident within the state of Iowa.

If there are additional ways that the Grievance Committee can be of service to the public in general or to the members of the State Medical Society, the Committee will be glad to receive them.

L. W. SWANSON, *Secretary*
S. D. PORTER, *Chairman*
H. B. WEINBERG, *Vice-Chairman*
L. C. KUHN
T. L. WARD
J. W. BUSHNELL
J. B. PRIESTLEY
R. L. KNIPFER
E. A. LARSEN
L. E. HOOPER
C. H. FLYNN

REPORT OF THE LEGISLATIVE COMMITTEE

Legislative Committee activities during the 1951 legislative session included a review of over 1,000 legislative bills. This review was done to keep the members of the Committee and the members of the Iowa State Medical Society informed on pending or proposed legislation. Periodic reports were made by the Legislative Committee to the members of the Iowa State Medical Society and suggestions were invited. Through the legislative contact men in each county, the committee was able to keep a close liaison with the members of the Iowa State Medical Society, and through them, with the senators and representatives. The Committee again wishes to recognize the excellent cooperation received from the legislative contact men and the county medical societies.

Legislative Committee activities continue the year round, however, whether the Legislature is in session, or not. Bulletins have been sent out at periodic intervals to the legislative contact men and to the members of the Society. In them attention has been called to legislation that will probably be considered by the next legislature. Each member of the Iowa State Medical Society has also been asked to help us in encouraging physicians, dentists or pharmacists to run for legislative posts. Members of these professions are invaluable because of their ability to present the professional side of health problems.

A number of bills will also be considered by the 83rd United States Congress which will be of interest to the members of the Iowa State Medical Society. The Legislative Committee will keep the members informed of proposed legislation.

This coming year will be a very important year

from the standpoint of Federal Legislation and from the standpoint of the elections for State offices. The Legislative Committee will need the help of the members of the Society constantly and it will expect the same fine cooperation received in the past.

The members of the Iowa State Medical Society are requested to send to the Legislative Committee all suggestions, opinions or criticism pertaining to legislative matters. These are extremely helpful in formulating legislative policies.

The Chairman of the Committee wishes to recognize the invaluable service rendered by Mr. I. W. Myers, legal counsel of the Iowa State Medical Society and to thank Doctor John W. Billingsley, Doctor John D. Conner, Doctor Allan Phillips, and Doctor D. C. Conzett, members of the Legislative Committee for their fine support and their willingness to work when there was a job to be done.

F. C. COLEMAN, *Chairman.*

REPORT OF THE MEDICOLEGAL COMMITTEE

During the past year, the Medicolegal Committee has been called upon to assist in advice concerning a malpractice suit brought against one of our members. The defense was conducted by Hirsch, Riepe & Wright of Burlington, Iowa. The suit was dismissed during the month of September 1951.

As in the past, your committee advises the members of the Society not to neglect carrying commercial malpractice insurance, because the public is a little more critical of the medical profession just now, and because our Society protection does not indemnify in case a judgment is obtained.

FRANK A. ELY, *Chairman.*

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

This committee consists of Doctor Lee Forrest Hill, Des Moines, John H. Randall, Iowa City, and F. Harold Entz, Waterloo, Chairman.

The only new item of business presented this committee was in regard to licensure of medical residents. It is the unanimous opinion of this committee that some method of temporary licensure for residents in training in hospitals approved for such residencies, be recommended by the Iowa State Medical Society. Naturally this should have no eventual regard toward permanent licensure but to require every resident to qualify and obtain a permanent license to complete his or her residency as required at present, seems somewhat unnecessary.

Much of the work which this committee previously considered has been taken over by another committee and will be found in its respective report.

F. HAROLD ENTZ, *Chairman.*

REPORT OF THE COMMITTEE ON MEDICAL SERVICE

During the past few years this committee has undergone many changes in assignments and duties, even changing its title in order best to meet the obvious needs of the changing times. This year has been no exception. After all of this reshuffling, our functions and duties are gradually emerging and today this committee is setting a precedent for the nation.

Throughout all of these many changes, the oldest

division, medical insurance, has persisted as the most important and best functioning. This is as it should be since it aids in answering many people's complaint that they cannot meet the ever increasing costs of modern medical care. Every physician must realize that this is the only real issue we have with the American people. The survival of free medicine will depend entirely on how well we can provide the solution for this issue. The only logical solution which will satisfy the complainers and at the same time not deprive us of practicing medicine as free physicians seems to be via the insurance route. Therefore we must promote and support Blue Shield and Blue Cross to the utmost of our circumstances and ability.

The proponents of compulsory health insurance or other plans of the government for furnishing universal medical care cannot by any stretch of the imagination or by reference to precedent expect to improve the quality of medical care, yet our adversaries, in order to strengthen their arguments for the adoption of compulsory schemes, persist in harrassing us with unjust accusations of improper medical services. Unfortunately we are guilty of some of these accusations. Although irrelevant to the true issue, how well we conduct our business outside the field of medical costs will have a tremendous influence upon the people when they go to the polls to decide these issues. We cannot survive on the glorious reputation of the past alone, but must rely on the correctness of our behavior today. One of the functions of this committee is to seek out places where medical service is most needed and then to solicit the cooperation of Iowa physicians for its performance.

In order to accomplish this task the members of this committee have had to travel over the state and nation in search of the best advice and experience. The committee on insurance continues to have been most active during the past year.

Veterans' affairs, one of our oldest committees, has continued to perform efficient service but has been relatively inactive because of no new turn of events in home town care.

The public information committee has brought about more friendly and cooperative relations with the press, radio and more recently television news services of Iowa. Allied professions are gradually becoming more aware of our obligations and responsibilities to each other through our committee. The pharmacists of Iowa have joined hands with us in an unprecedented campaign of cooperation for the past two years with no end yet in sight. In this undertaking we have already been given credit for originating the idea and leading the movement for the nation. The doctor's secretaries' classes conducted by Mr. Don Taylor throughout the state under the auspices of the county medical societies, have proved popular and I am sure profitable for their physician employers and our public relations. You will hear more from the committee on hospital and professional relations in the near future. Although one of our newest, it seems to be off to a good start. Another new committee is that on relief and health agencies, designed to work with problems revolving around medical care of the old age recipients and aid for dependent children and also to deal with non-official public health agencies. Its work has been limited because

of recent changes in social service regulations and because no real problems have been presented.

Health education is well on its way after only a year of organized planning and you will hear more from it during the coming year. We lack the proper approach for meeting with labor and industry to discuss their medical service problems, yet this should be one of the most important functions of this committee and we hope that in the near future some means of reaching these important groups can be worked out.

Never before in the history of this committee have the individual members tried so hard to accomplish the tasks assigned to them. Many have been vague and hopeless undertakings, discouraging to say the least, but no one has complained. We of this committee are embarking on a new adventure in medicine; we believe we are going places slowly; the task ahead is huge, mostly unknown and not easy. Give us personnel like those of this year and we will succeed.

FRED STERNAGEL, *Chairman.*

INSURANCE

During the past year Iowa Medical Service maintained a fairly steady, though less impressive, growth than during the two preceding years. The membership was increased by 51,498, closing the year with an enrollment of 313,097. This compares with an increase of approximately 87,000 new members per year for each of the two preceding years.

The earned income for the year was \$2,793,820.04, as compared with \$2,107,746.32 for 1950.

Payments to physicians totalled \$2,173,213.94, an increase of \$720,640.29 over the amount paid by the plan in 1950. The percentage of claim payments to earned income was 81% for the year, with a corresponding percentage rate of 71.69 for 1950. From these figures it is apparent that the incidence and payment for claims rose sharply during the year. The increased utilization was consistently higher month by month during the first half of the year, causing considerable concern to your board of directors. Fortunately the trend reversed itself during the second half, overcoming the deficit and permitting the plan to show a small increase in annual surplus, after setting up all the usual reserves.

Analysis of the claims reveals that by and large, ten or twelve procedures or medical conditions account for approximately 75% of all claims. The period of high incidence of claims in 1951 shows little deviation in amount or distribution from that of preceding years. One may trace a possible increase of 6% of total amount paid, to the higher schedule of fees made effective July 1, 1950.

From this experience one may properly conclude that major upward adjustments in fee schedule or benefits should not be made without corresponding increases in the premium rate structure.

Possibly a more important factor in the higher incidence of claims and higher claim ratio may be found in the better appreciation by the subscriber and physician alike, of the full extent of coverage provided in our contract. In substantiation of this, there is evident a widespread and increasing urge to extend and include coverage and benefits well beyond those originally contemplated or provided for in our setup.

The administrative load is constantly increasing

with the growth of the plan. We have at this time a staff of 25 full time employees. The handling of claims constitutes probably our major, and certainly the most difficult, function in the office and we are developing a very efficient department under the direction of Tom Garbett. We have during the year been most fortunate in securing the services of Dr. Dan W. Coughlan on a part-time basis to act as Medical Advisor and Consultant to the claim department.

We receive and service an average of 266 Doctors' Service Reports each working day, the total on individual days often approximating 500.

Another big important administrative function is that of accounting and bookkeeping, and with the rapid development of the plan, the details and responsibilities in this division have multiplied rapidly. This department is under the direction of Eleanor Roberts and is carried on most ably.

It is generally recognized that a physicians' or public relations department is essential to the proper functioning and operation of any prepayment plan. While continuing as field secretary of the State Medical Society, Don Taylor has devoted a not inconsiderable amount of time and effort to the organization of such a department, in addition to carrying on and directing the necessary field work. Two hand picked men, Gerald Buckles and Douglas Majury have been added to his staff and are doing effective work under Don for the two Blue Cross plans of the state, as well as Blue Shield. It should be stated in passing that Iowa Medical Service appreciates greatly the attitude and position taken by the Trustees of our State Medical Society, and our Manager, Dr. R. D. Bernard, in making Mr. Taylor available to us on a loan and part time basis at this time when we sorely needed him.

Changes are taking place and rapid development is being made in the field of hospital and medical care. When the voluntary prepayment movement got under way with sponsorship by groups of hospitals and physicians in their respective fields, little of this type of insurance was being sold by the commercial companies. With our entry into the field, we found a public most receptive to the form of coverage we had to offer. The growth in this voluntary prepayment movement was phenomenal to a point where a large proportion of the population presently has coverage in some form and to some degree.

Groups were enrolled in Blue Cross and later in Blue Shield with great ease and the individual non-profit plans made great progress. While commercial companies were in the field, they were rather inactive, nor did they offer contracts and coverage comparable to that in the so called voluntary non-profit medical and hospitalization fields. Since then, these companies have aggressively entered the field of health insurance. They have developed contracts with benefits and rates which compare quite favorably with our own, and they are making an active and strong bid for their portion of the business. Competition is becoming very active. Instead of the easy enrollment of a decade ago or less, we now find it necessary to make an active canvass for the business both to hold and maintain groups already on our books and to extend membership by enrolling new groups and individuals.

There is danger of hospital and medical care plans

losing sight of the primary purpose for which they came into being; namely that of supplying good medical care at a price the public can afford, and by providing a medium by which people with lesser incomes can budget for the costs of illness within their own families.

The insurance companies, well staffed with highly trained men and women, in and out of their home offices, and with larger resources, which can be and often are applied in competition with our type of organization, have a distinct advantage which we can hardly hope to overcome.

As sponsors of the voluntary non-profit plans, we in the profession must not lose sight of the service and social aspect of the Blue Shield type of organization and we should not strive to emulate and be grouped with the commercial companies.

Only by keeping in mind the primary objective in organizing and developing our plan, and by every one lending full support and loyalty to the plan, can we hope to fulfill its main purpose.

MARTIN I. OLSEN, *Chairman*,
Subcommittee on Insurance.

VETERANS' AFFAIRS

Iowa Medical Service signed a contract with the VA in June, 1951 for a year for Part 1 of the Fee Schedule with no changes, but were unable to reach an agreement for fees in Part 2.

Dr. Donald McCarthy, chief of out-patient service for this area from the St. Paul office, and representatives from the VA in Des Moines, Iowa Medical Service and Iowa State Medical Society met July 11. Several minor problems were discussed and apparently satisfactorily adjusted.

Your chairman has attended two Council meetings relative to VA problems, one of which concerned the resolution adopted by the Kansas State Medical Society disapproving VA Hospitals admitting veterans with non-service connected disabilities and accepting fees from commercial insurance companies where such cases are so covered.

We have had some complaints that the VA fees are inadequate and the paper work excessive. The VA contract and fee schedule will probably be up for renewal in June and any suggestions or criticisms you may have to offer will be considered by your committee if received prior to that time.

E. M. HONKE

J. S. MCQUISTON

R. C. GUTCH, *Chairman*,

Subcommittee on Veterans' Affairs.

PUBLIC INFORMATION

It has been the purpose of the Subcommittee on Public Information for the past two years to develop a State Code of Cooperation between the press, radio, the medical profession, and the hospitals which code can serve as a minimum working agreement for local handling of medical news. The Code of Cooperation has been accepted and approved by the Iowa Radio News Association, Iowa Daily Press Association, Iowa Press Association, Iowa State Medical Society, Iowa Hospital Association, and the Iowa State Nurses Association.

An attempt will be made to encourage local medical societies to invite representatives of the press, radio and hospitals to meet with them in order to work out methods of handling medical news articles.

It is hoped that within the next few months all county medical societies will have accomplished some such get-together, and it is felt by so doing better public relations will result.

OTTO N. GLESNE, *Chairman*,
Subcommittee on Public Information.

ALLIED PROFESSIONS

The interprofessional group consists of the Iowa State Medical Society, the Iowa State Dental Society, the Iowa Pharmaceutical Association, the Iowa Veterinary Medical Association, the Iowa State Nurses Association, and the Iowa Hospital Association. This group was organized in 1933.

In the past year and a half, 36 meetings of the Pharmaceutical Association and component county medical societies have been held. Your committee proposes to cover the state completely in due course of time because the meetings held last year were very satisfactory and have created a much better understanding between the medical profession and the pharmaceutical profession.

The problem of dispensing by physicians and counter-prescribing by pharmacists most certainly has a tendency to lower the quality of medical care the public is entitled to receive. It may, and does happen, that both physician and pharmacist may dispense obsolete drugs or drugs that have deteriorated in their therapeutic value and in the end, not only the public but both physician and pharmacist will not only suffer loss of prestige but also an economic loss.

We feel that whenever possible proprietary drugs and brand names should be eliminated. We recommend adherence to the USP and new and non-official drugs that have been endorsed by the committee on new and non-official remedies of the AMA.

An explanation of new drug acts, both state and national, has been given by members of the Pharmaceutical Association and legal counsel of the State Medical Society and State Pharmaceutical Association.

I wish to quote in part, an article by Dr. John W. Cline, president of the AMA, published in the AMA Journal of September 29, 1951.

"Before the turn of the century, many worthless drugs and secret remedies were promoted with false or exorbitant claims. Since uniform standards for drugs were lacking and regulatory laws were inadequate, the physician often had difficulty in selecting remedies on which he could rely. To provide physicians with much-needed information on drugs, the AMA in 1905 set up a council on pharmacy and chemistry.

"The general purpose of the council was, and is, to evaluate drugs and report to the profession on their reliability, proven therapeutic value, and limitations. As might be expected, the ethical pharmaceutical companies welcomed the new council's scrutiny of their products and praised the AMA for this drug evaluation service. The not-so-ethical firms were equally loud in their denunciation. The new council, however, proceeded with its work in such a careful and scrupulously fair manner that within a few years council acceptance was much sought after by the majority of manufacturers.

"The council still follows the method of procedure it adopted in the beginning. A firm wishing council acceptance of a product must submit specimens of the drug for laboratory examination, evidence in

support of proposed claims, and certain other technical information.

"The council office submits all this information, together with data from its own files, to a member of the council or a consultant who is an authority in the field of the particular product. He prepares a report on the drug, sometimes with the assistance of a staff consultant. This report, together with the firm's presentation, is included in the Biweekly Council Bulletin which goes to all 18 members. Each of them individually considers the evidence and sends to the council secretary his comments and any additional information he may have on the product. A symposium of members' opinions is then carried in the next bulletin, at which time they ballot on the product. A three-fourths majority vote is necessary for acceptance, or the council may vote to withhold acceptance pending a change in advertising, receipt of additional information, or for other reasons.

"The manufacturer is informed immediately of the council's vote. If the product is acceptable, he may then use the council's seal of acceptance in his advertising, following certain specified rules for its use. In case of rejection, the manufacturer may request reevaluation of the product at a later time.

"Once a drug is accepted, a monograph describing its actions and uses is published in *The Journal* and is later included in "*New and Nonofficial Remedies*," the council's annual authoritative book on drugs. Acceptance reports are also carried in many leading pharmaceutical publications.

"The physicians who serve as members of these two councils give freely of their time and effort. We of the profession owe a debt of gratitude to these men who so truly live up to the motto of the council on pharmacy and chemistry, 'Not For Ourselves, But For Medicine'."

One way in which we can further their good work, guard the welfare of our own patients, and support ethical manufacturers—all at the same time—is to use council-accepted products in our practices.

If we receive no more from our AMA dues than this service in evaluating drugs and devices, with its regulatory effect in both fields, we would be getting an excellent return.

JAMES E. REEDER, *Chairman*,
Subcommittee on Allied Professions.

HOSPITAL AND PROFESSIONAL RELATIONS

The first meeting of our subcommittee was held in Cedar Rapids, June 17, 1951, at which time we discussed the problems confronting us and outlined some plans for meeting them. On September 21, 1951, I sent out a questionnaire to members of the committee and had an excellent response. This questionnaire and report was given to the Iowa State Medical Society Councilor meeting September 26, 1951; the results of this meeting were also forwarded to you and the members of my committee.

On November 28, 1951, the committee met in Davenport at the Hotel Blackhawk and adopted some recommendations to be sent along with our delegates to the AMA Interim Meeting in Los Angeles in December 1951.

It is the pleasure of your chairman of Hospital and Professional Relations to report that at that meeting in Los Angeles the Board of Trustees adopted a policy statement on physician and hospital relations to supplement the controversial Hess report

that was almost identical to that submitted by our committee; the details of which were reprinted and can be found on page 26 of the January issue of the *Iowa State Medical Journal*.

For your information, two concrete cases of doctor and hospital differences are now being considered and the ground work has been well established, we believe satisfactorily for the physicians concerned.

In conclusion, I wish to thank you for this opportunity to serve on your committee. I wish also to make this a joint report of my committee. When first confronted with this committee's problems the feeling of our committee was one of conservatism for the most part. As the year progressed we were agreed that this policy was most appropriate. We did not steer our course headlong into the apparent "puddle of muddy controversy" but like the grown-up men we should be, we went around the puddle instead of walking through as small boys might have done. For this action, I personally give credit to the senior members of my committee.

WAYNE K. COOPER
JOSEPH W. LAWRENCE
R. F. BIRGE
W. L. DOWNING
NATHANIEL G. ALCOCK
GORDON F. HARKNESS
C. H. STARK, *Chairman*,
Subcommittee on Hospital and
Professional Relations.

RELIEF AND HEALTH AGENCIES

The Subcommittee dealing with Relief and Health Agencies is new and has very little to report. Our work, as we understand it, should be to advise and perhaps help administer medical problems concerning Old Age Assistance, Aid to the Blind and Aid to Dependent Children.

We are of the opinion that we could be of some assistance with these problems, but to date we have had no opportunity to meet with the groups concerned.

FRANK M. MCCARTHY, *Chairman*,
Subcommittee on Relief and Health Agencies.

HEALTH EDUCATION

My committee consists of Drs. John D. Conner, W. H. Longworth, P. R. V. Hommel, E. A. Larsen and myself.

On May 24, 1951, the committee met with Mr. Aubrey Gates of the American Medical Association at the Des Moines Club for dinner. Mr. Gates went over the functions of this committee, what the goal should be and give us some suggestions of what we should do. He suggested that we contact the Extension Service at Iowa State College and meet with these men and discuss our problems with them. He also stated that a little later the Farm Bureau should be contacted. He listed five points of organization.

1. Meet and talk over the entire situation.
2. Agree on a philosophy.
3. Call in groups of the Extension Service and Farm Bureau.
4. Have an objective.
5. Get this going in a county medical society.

He also gave us six health points:

1. Nutrition.
2. Sanitation.

3. Immunization.
4. Picture of medicine.
5. Hospitals.
6. Prepayment of the farm people.

On June 10, 1951, Dr. John Conner of Nevada, a member of our committee, attended a meeting or workshop at Clear Lake. He gave a forty-five minute talk as a representative of the Iowa State Medical Society and he was the representative of this committee.

On the evening of June 14, 1951, our committee met with the Extension Service of Iowa State College at Ames, to discuss some of our problems and to seek advice from them. The following people from Iowa State College were present: Mr. Murl McDonald, Merl Whorlow, Glen Holmes, Maurice W. Soultz, and Louise Rosenfield. Our committee was represented by Drs. John Conner, R. D. Bernard and Joe G. Fellows.

It was suggested to Mr. Whorlow at this meeting that any time he needed doctors to participate on these health programs, he should contact me or my committee and we will furnish them all the needed personnel to conduct the meeting. Both the Extension Service and medical profession were well pleased with that meeting and we decided we should meet again in the near future.

On July 26, 1951, I attended a meeting at Algona, meeting with the county medical society in its new hospital for the purpose of discussing a county health unit. Also attending this meeting was Mr. Merl Whorlow of the Extension Service of Iowa State College. This health unit was thoroughly discussed and at a later date a health unit was organized in this county.

On November 29, 1951, this committee was represented by myself in a panel discussion for rural health at the Memorial Union at Iowa State College. This meeting was in charge of Mr. Leonard C. Murray of the Iowa State Department of Health.

In February, 1952, I will represent the Iowa State Medical Society at the Seventh National Conference on Rural Health at Denver.

This subcommittee is a new one and we have had to go rather slow in learning the purposes and functions of the committee; however I feel that we have accomplished some definite results and I am sure that this subcommittee is going to play a very big part in the future of the Iowa Medical Society. I feel very definitely that rural health is a very important problem to the rural people of Iowa and the organization and operation should be carried on by the members of the medical profession.

JOE G. FELLOWS, *Chairman,*

Subcommittee on Health Education

REPORT OF THE COMMITTEE ON

NECROLOGY

In 1951 we lost 54 members through death. The youngest was 30 years of age; the oldest 91. Will the members of the House please stand as the secretary reads the names of the honored departed.

I. K. SAYRE, *Secretary.*

| Name | Town | Age |
|------------------------|----------|-----|
| William F. Amdor, | Carbon | 76 |
| Asaph Arent, | Humboldt | 73 |
| William R. Arthur, | Hampton | 73 |
| Charles F. Baumeister, | Avoca | 73 |

| Name | Town | Age |
|--------------------------|-----------------|-----|
| Frank E. Bellinger, | Council Bluffs | 77 |
| G. G. Bickley, | Waterloo | 66 |
| Ottmer N. Bossingham, | Clarinda | 72 |
| Fred A. Bowman, | Leon | 79 |
| Theodore L. Chadbourne, | Vinton | 81 |
| Frederick J. Chapman, | Keokuk | 64 |
| Aaron C. Conaway, | Marshalltown | 74 |
| Jennings Crawford, | Cedar Rapids | 68 |
| Charles H. Cronk, | Bloomfield | 90 |
| John L. Cruzen, | Barnes City | 75 |
| Eugene V. Donlan, | Clinton | 53 |
| John A. Dulin, | Sigourney | 76 |
| Warren Z. Earl, | Sioux City | 67 |
| Francis F. Ebersole, | Mt. Vernon | 73 |
| Rodney P. Fagen, | Des Moines | 65 |
| Robert A. Gamble, | Madrid | 72 |
| George W. Gilfillan, | Bloomfield | 51 |
| Homer J. Gilfillan, Sr., | Bloomfield | 83 |
| Sarah M. F. Griffin, | Manson | 79 |
| Lawrence A. Hanson, | Jefferson | 42 |
| Thomas F. Hersch, | Cedar Rapids | 63 |
| Bush Houston, | Nevada | 66 |
| William H. Johnston, | Des Moines | 30 |
| Emil C. Junger, | Soldier | 77 |
| Johnson H. Kerr, | Akron | 75 |
| Charles S. Krause, | Cedar Rapids | 75 |
| Frank J. Kriebs, | Elkport | 91 |
| Elmer L. Lampe, | Bellevue | 66 |
| Gisle M. Lee, | Thompson | 84 |
| Guyford G. Leith, | Wilton Junction | 67 |
| Bernard H. Luehrsman, | Dyersville | 77 |
| Luther D. MacNaughton, | Eagle Grove | 80 |
| Eppie S. McCrea, | Eddyville | 83 |
| Ray A. McLean, | Fayette | 73 |
| Leslie M. Nourse, | Des Moines | 79 |
| Robert P. Plimpton, | Denison | 80 |
| Jesse A. Pringle, | Bagley | 75 |
| Maurice Scanlan, | De Witt | 76 |
| Erwin Schenk, | Des Moines | 80 |
| William A. Seidler, | Jamaica | 73 |
| Frank L. Siberts, | Hampton | 72 |
| Fred B. Sigworth, | Anamosa | 77 |
| Herbert R. Sugg, | Clinton | 77 |
| George W. Tapper, | Monona | 81 |
| Jesse C. Waddell, | Paton | 69 |
| Allie H. Wakeman, | Fort Dodge | 76 |
| Elbert T. Warren, | Stuart | 66 |
| Edwin B. Winnett, | Des Moines | 66 |
| Hugh B. Woods, | Des Moines | 74 |
| Charles L. Worley, | Ottumwa | 52 |

REPORT OF THE PUBLICATIONS

COMMITTEE

During 1951 every effort has been made to increase the value of the Journal of the Iowa State Medical Society to the Society members.

Several changes in the editorial staff were approved by the Board of Trustees effective as of January 1, 1951. They are: Managing Editor, Miss Mary L. McCord; Business Manager, Dr. Ransom D. Bernard and Advertising Manager, Mr. Don L. Taylor Dr. Everett M. George continued as Scientific Editor. The Editorial Board was composed of Drs. Eugene J. Boyd, Iowa City; Allan G. Felter, Van Meter; Daniel A. Glomset, Des Moines and Tom D. Throckmorton, Des Moines.

The Journal continued its previous pattern of pub-

lishing articles which were presented at the annual meeting plus special articles and case reports of interest contributed by Iowa physicians. The March issue carried the program of the annual meeting. The April issue was devoted to the College of Medicine of the State University of Iowa. The transactions of the House of Delegates were presented in the official July issue.

The editorial section contained editorials on both scientific and socio-economic subjects. In order that our readers might be fully informed we thought it advisable to comment on important fields in national and state economics insofar as they are related to medicine.

Several new departments have been added to the Journal this year resulting in an increase in costs. The Publications Committee has added them in hopes of making the Journal more valuable to its readers.

The Board of Trustees awarded the Journal printing contract to a new publishing house beginning with the January, 1951 issue.

The Journal deficit this year was \$7,674.19. Thirteen printing bills were paid out of the 1951 account instead of the usual twelve since our former publishing house billed one month after the Journal's publication. A new Addressograph machine was purchased, which the Journal uses, and a percentage of its cost was charged to the Journal account. A change in the accounting methods was made which results in the fact that more office salary items are charged to the Journal account for work being done on the Journal. The total expenses for 1951 were \$2,522.59 more than that of 1950 and although the total Journal income was increased by \$1,565.81, this increase did not offset the expenditures. This increase in expenses coupled with a decrease in membership, raised the cost of the Journal per member to \$3.116.

The State Journal Advertising Bureau, an official body of the American Medical Association, should be commended for its noteworthy efforts to secure and renew advertising contracts for the Journal. The extensive use of color advertisements accounts for a portion of the advance in both income and expense. Mr. Taylor was successful in his solicitation of local advertisers for the Journal. Each physician can help the Journal by patronizing its advertisers and mentioning the Journal when buying their products.

The accompanying table sets forth figures on the comparative cost of the Journal during the last three years:

| | 1949 | 1950 | 1951 |
|-------------------------------|-------------|-------------|-------------|
| Reading Pages | 594 | 598 | 528 |
| Advertising Pages | 402 | 388 | 444 |
| Percentage of Reading Pages . | 59.6% | 60.6% | 54.3% |
| Original Articles | 72 | 65 | 68 |
| Editorials | 59 | 65 | 60 |
| Total Journal Expenditure ... | \$22,144.94 | \$23,280.77 | \$25,803.36 |
| Total Journal Income | \$16,393.78 | \$16,563.36 | \$18,129.17 |
| Net Expenditure for Journal . | \$ 5,751.16 | \$ 6,717.41 | \$ 7,674.19 |
| Number State Society Members | 2,482 | 2,516 | 2,463 |
| Net Expenditure per Member . | \$ 2.313 | \$ 2.669 | \$ 3.116 |

We believe we have a good Journal. We want to continue to be proud of our state publication but we need the cooperation of all of our members.

EVERETT M. GEORGE, *Scientific Editor*.

Reports of Special Committees

REPORT OF THE BALDRIDGE-BEYE
MEMORIAL LOAN FUND COMMITTEE

The Baldridge-Beye Committee has approved loans

during the year of 1951 to total \$1850.00. These were made to one junior and two senior students of the medical school of the State University of Iowa and were made after the school year was well under way and were intended for second semester use. There is around \$300.00 in the fund which was not used this year but will be available for the school year of 1952-53 in addition to that to be appropriated from the 1952 dues. The names and amounts of the loans are as follows: Fred B. Goslin, \$750.00; Vernon G. Helt, \$500.00; and Everett I. Salman, \$600.00.

J. W. AGNEW, *Chairman*,
W. M. FOWLER
E. D. WARNER

REPORT OF THE CANCER COMMITTEE

Since the Cancer Committee was reorganized in 1935, under the chairmanship of the late Dr. F. P. McNamara, its members have been convinced that the most effective method of reducing the cancer death rate in the near future is to adopt a program of practical measures to eliminate or reduce delay. Such a program must include at least three projects.

1. Education of the public concerning cancer.
2. Provision for adequate diagnostic and treatment facilities for poor people who have cancer or suspected cancer.
3. Better undergraduate and postgraduate medical education in cancer.

It may be profitable to indicate as briefly as possible the progress that has been made in the last seventeen years toward the achievement of these objectives.

Lay Education. The task of educating the public in the early signs of cancer, and especially, the curable types of cancer, is now being accomplished by the Iowa Division of the American Cancer Society and the Division of Cancer Control of the State Department of Health. Both agencies work in complete and happy harmony with the Cancer Committee. Their education campaigns cover every county of the state. In addition to maintaining its educational and service programs, the Iowa Division of the A. C. S. also contributed \$172,000.00 last year for research.

The important factors in the A. C. S. educational program are:

Educational films (almost 4000 showings in the past fiscal year).

Talks, by doctors, nurses and laymen (over 3000 in the past fiscal year).

Literature (over 2,400,000 pieces distributed yearly).

Exhibits at fairs and conventions (over 150 past fiscal year).

Newspaper publicity (approximately 70,000 column inches per year).

Radio publicity (approximately 2,400 free quarter-hour programs yearly).

New Horizons (Iowa division's cancer magazine reaching 180,000 homes quarterly).

According to a recent survey made by the School of Journalism at the State University of Iowa, *New Horizons* is becoming a potent educational medium. For example, the survey showed that 86% of *New Horizon* readers were able to name one or more cancer danger signals, which contrasts sharply with the national figure of 52%, and the Iowa average of 57%. It was also shown that 82% of *New Horizons* readers were convinced that early cancer can be

cured, whereas the state averages show that only about 50% of all Iowans believe this to be true. One of the largest health projects of its kind is under way in Iowa, under the sponsorship of the Iowa State Medical Society, the Division of Cancer Control, and the Iowa Division of the American Cancer Society. The hope is that teaching women to make regular breast self-examinations will substantially reduce the breast cancer death rate. The chief tool used in the project is a film showing a simple technic for breast self-examination. Showing is usually accompanied by a talk by a doctor. The second step in the project will be a follow-up to determine whether or not women generally have adopted this health habit; a later follow-up will determine the effect of the project on the breast cancer death rate. It is estimated that 130,000 Iowa women have already viewed the film (one-tenth of the total U. S. women who have seen the film). Eighty-one copies are now in use in this state, 76 of which were purchased by the Iowa Division; this represents one-tenth of all copies in circulation in the entire United States.

The Division of Cancer Control not only sends its director, Dr. E. G. Zimmerer, to all parts of the state to address lay audiences on cancer, but also provides films and projectionists for "Breast Self-Examination" and speakers, if requested, to any group.

Poverty. In Iowa, poor patients who have cancer, or are suspected of having cancer, can be sent to the University Hospitals at Iowa City for care at the expense of the state. About eight hundred indigent cancer patients are so committed each year. This is approximately one-third of the indigent cancer patients. The excluded patients must receive care in or near their own communities. For many years, the legal determination of indigency, while binding upon the state, was not binding upon the counties. County Boards of Supervisors could, and often did, refuse to care for indigent patients excluded from the University Hospitals, and the patients had to depend upon the generosity of their own physicians. The defect in the law was pointed out by the Committee on Medical Education and Hospitals, and on the strong recommendation of the Committee of Nine, the law was amended so that it now reads, in part, "If the court ascertain . . . that a person . . . cannot be received as a patient at the said University Hospital within the period of thirty days, then he shall enter an order directing the Board of Supervisors of the County to provide adequate treatment at County expense for said patient at home or in a hospital."

So, at least theoretically, all indigent cancer patients in Iowa are now entitled to adequate care, although they have not all received it, partly because some communities have lacked the necessary diagnostic and treatment facilities. However, the tumor clinics maintained by county, state and federal funds, have brought such facilities within the reach of all our people.

Postgraduate Professional Education. The Cancer Committee has written two editions of the cancer manual, copies of which have been distributed to all physicians and osteopaths in the state. The major portion of the burden of postgraduate education in cancer now rests upon the Division of Cancer Control which conducts six to eight cancer institutes for physicians in addition to one or two each for dentists, and nurses annually, sends to all physicians its bi-

monthly illustrated Cancer Bulletin, and loans professional films to medical societies, hospitals staffs, etc.

Undergraduate Professional Education. Our medical students are unquestionably taught as well as possible in view of the limitations of the teaching material, but it has long been recognized that the material could be improved. County quotas are based upon the number of patients, not patient-days. The expense of caring for indigent patients committed to the University Hospitals is paid from state funds while patients treated in other hospitals, in their homes, or in tumor clinics, are paid for, at least in part, from county funds which county Boards of Supervisors are in duty bound to conserve. Since county officials can send only one-third of their indigent cancer patients to the University Hospitals, they properly select the most expensive cases, and therefore the proportion of advanced, hopeless, inoperable cases sent to the University is much higher than is seen in private practice. This high proportion of advanced cases is apt to give the students the idea that cancer is a hopeless disease and also fails to teach them the methods of early diagnosis upon which they must later rely. Our committee presented a bill to the 1939 legislature which provided for the establishment and maintenance of tumor clinics at state expense. If the expense of treating all indigent cancer patients were borne by the state the necessity of sending the most advanced cases to the university would no longer have existed and the medical college could have had its choice of all the indigent cancer patients. It would have been easy to select a group of patients to be used in teaching similar to those seen in private practice. Such a distribution is ideal for educational purposes. The bill was defeated and it was necessary to establish the tumor clinics to care for the indigent patients excluded from the University Hospitals. The clinics are financed by federal, state and county funds, and therefore it is still the duty of county officials to commit only the most expensive cases. We believe that the problem of improving the quality of cancer teaching material is one with which the Iowa State Medical Society should be concerned. Perhaps we should consider the advisability and feasibility of altering the indigent laws so that state funds instead of county funds shall be used for the diagnosis and treatment of indigent cancer patients.

ARTHUR W. ERSKINE, *Chairman.*

REPORT OF THE COMMITTEE ON GENERAL PRACTICE

The Committee on General Practice of the Iowa State Medical Society presents the following report of its activities during the past year.

Our first meeting was held on July 26, 1951. This meeting was opened by a discussion by Dr. Bernard concerning the activities expected of our Committee. Following there was a general discussion of the activities and accomplishments of this committee in the past. It being the first aim of our committee to institute programs or policies at the University which would produce more general practitioners, it was felt that the things done so far had not produced the desired results. We felt that the institution of general practice residencies was not sufficient and that the students should have a better knowledge of general practice through the medium of preceptorships.

A conference was held with some of the members of the Dean's Committee at Iowa City and they were found to have investigated rather extensively and were receptive to the idea of preceptorships for students between their junior and senior year.

The Board of Education had to give its approval for this program. This was given and on December 21 a meeting was held and the final rules and regulations were set up as follows: (1) The preceptor must be a reputable physician who can give the student training in the general practice of medicine. (2) The physician must be in good standing and of good reputation in his local community. (3) He must be a member in good standing in his county and state societies and of the American Medical Association. (4) No other memberships shall be required of the preceptor. (5) He shall subscribe to the Code of Ethics of the AMA and Code of the State of Iowa. (6) There shall be no requirements as to age and years in practice for the preceptor. (7) The preceptor shall provide board and room for the student, preferably in his own home. He has, however, no obligation to the student's family. (8) The preceptor shall make no other payment to the student. (9) A yearly meeting, in Iowa City, shall be held for all preceptors. (10) The preceptor shall send a written confidential report, concerning the student, to the Dean of the College of Medicine. (11) The student shall not serve with a relative nor in his own community. (12) Preceptorships shall be held insofar as possible in the summer months, preferably the month following the end of the school year or the month immediately preceding the start of the senior year. (13) The Dean's Committee shall prepare a printed form on which the preceptor may list information about his education, training and memberships. (14) The final selection of preceptors shall be by the Dean of the Medical School.

As the approval of the Board of Education was delayed it is not possible to require all students to participate this year because some already have made commitments for work in hospitals, or with doctors, which for financial reasons it was thought best to let them fulfill.

We feel this is a very important step and members of previous committees should feel their efforts were not without results. We realize that many problems will arise and solutions will be difficult. Our hope is that after students have an insight into what general practice is, more of them will accept the challenge and need for the welfare of a large part of our state. We feel that this committee should continue to operate and help in solving the various problems as they arise. We know this may not be as effective as we hope and that other ideas may have to be considered and tried.

We feel that the members of the faculty of our medical school could learn much and might therefore be better fitted to advise the students they teach if they visited some general practitioners of the state and saw the problems first hand.

C. V. HAMILTON, *Chairman.*

REPORT OF THE HEART COMMITTEE

The Heart Committee has held no meetings during the year. It has seemed to your chairman that the chief function of this committee should be to act as liaison between the Iowa Heart Association and the Iowa State Medical Society, carrying over to the lay

organization a knowledge of the policies and principles of the medical society and bringing to the State Society information of the activities of the heart association.

H. W. RATHE, *Chairman.*

REPORT OF THE HISTORICAL COMMITTEE

Since the completion of the Centennial volume the Committee has devoted its attention to the collecting of items of historical interest which were not covered in the above volume.

The Committee desires to express its appreciation to the secretaries and officers of county societies for assistance in completing this historical record of Iowa medicine.

WALTER L. BIERRING, *Chairman*

EVERETT M. GEORGE

CHARLES L. JONES

LESTER C. KERN

CLYDE A. BOICE

CLYDE A. HENRY

JOHN T. MCCLINTOCK

JEANETTE DEAN THROCKMORTON, *Secretary.*

REPORT OF THE COMMITTEE ON INDUSTRIAL HEALTH

On November 1, 1951, the chairman presented to the Council of the Iowa State Medical Society some objectives for the extension of industrial health services in the State of Iowa. Briefly, the objectives are those of the Council on Industrial Health of the American Medical Association:

1. Better medical organization for industrial health on the part of individual physicians and the Iowa State Medical Society.

2. Clarification of industrial health objectives and their integration into the pattern of community health service.

3. Creation of public interest and demand.

4. Improved professional training and standards.

These objectives may be attained through the following five-point program:

1. The endorsement by the Iowa State Medical Society of formal presentation of the principles of occupational medicine and industrial health, including industrial hygiene, in the undergraduate teaching program of the College of Medicine.

2. The expansion of the practice of occupational medicine and surgery and the continued development of industrial health, including industrial hygiene, subject to such changes as may be necessary to maintain and elevate the quality of services and to increase their availability.

3. The principle that sound and properly supervised industrial health programs should be organized in all communities and that responsibility for implementation rests jointly on management, labor, the medical profession, official and other recognized organizations concerned with improving the health and working conditions of all wage earners.

4. The endorsement by the Iowa State Medical Society of recognized industrial health plans consistent with the platform of the American Medical Association.

5. The establishment of just and equitable remuneration for professional services rendered to industry.

The Committee on Industrial Health earnestly requests the approval of the above program by the

State Society with its fullest support and cooperation because industrial health services in this state require much development.

R. F. Frech, M.D., Medical Director of the Maytag Company, representing the State Society, attended the annual Congress on Industrial Health held in Pittsburgh, January 17, 1952. At the time of this Congress there was a meeting of representatives of the various state committees on industrial health. The following is an abstract of Dr. Frech's report. (In a subsequent issue of the *Journal of the American Medical Association* there will soon appear a verbatim report on the proceedings of the Congress).

Dr. Frech reports that the impression he gained was that industrial medicine still has a long way to travel in an organizational way. The reports of most states were very scanty, indicating a great lack of activity of the committees. He was particularly impressed with activities of three states, Pennsylvania, Indiana and Wisconsin. He indicates that the Iowa State Medical Society could well adopt many of their basic concepts. These state societies had very active programs and their committees were very active. The committees usually consisted of about seven members. They conducted surveys of the medical profession in their states and the industrial plants. They solicited cooperation with their State Departments of Health and developed better relations with their various industrial commissioners. Most important of all they developed industrial educational programs for the county and state medical meetings to educate the general practitioner to the many industrial problems. They are actively promoting the induction of industrial medical teaching programs in the various universities of their state. Indiana has recently issued a standard procedure brochure for industrial nurses. It has also recently submitted to the state legislature a request for changes which should be made. Industrial tours for physicians have developed quite an interest in several states: they usually terminate with a dinner and a very short program. The Indiana committee takes an active interest in all cases coming before the industrial commissioner and has assisted in the settlement of many of them.

Among Dr. Frech's conclusions derived from this meeting are:

1. There is financial outlay necessary for the proper functioning of a Committee on Industrial Health, the amount varying, of course, with the committee's activities.
2. It requires several years in order to make a Committee on Industrial Health an active, functioning part of the State Medical Society.
3. No state committee has yet adequately solved the problem of supplying industrial medical services to the small plant.

In conclusion, very little has been accomplished by the committee in the past year; however, objectives have been stressed, definite plans are being developed and it is anticipated that constructive programs will be forthcoming during the ensuing year.

H. H. SMEAD, *Chairman*,
Committee on Industrial Health.

REPORT OF THE COMMITTEE ON MATERNAL AND CHILD HEALTH

The Committee on Maternal and Child Health has been fairly active the past year. For some time there has been consideration given to following the ex-

ample of several other states in investigating maternal deaths. Doctor Donnelly, director of the Maternal and Child Health Division of the State Department of Health, brought this subject up again this summer, and the Committee decided to present it to the Council for approval. A special working committee composed of Dr. H. A. Weis, chairman, Dr. Lee F. Hill, and Dr. J. H. Randall was appointed to investigate the best method of setting up the machinery for making these investigations. Drs. Weis and Hill are members of the regular Committee on Maternal and Child Health, and Dr. Randall was appointed to represent the University of Iowa.

Several meetings have been held by this working committee, but full details are not yet available and it will be some time before the actual investigative work can begin. There are several points regarding this program that should be stressed. All reports will be by number and confidential. The results of any investigation will not be available for use by anyone contemplating suit against any party. The greatest benefits will be from a teaching standpoint, and for recommendations for equipment for maternal care in hospitals.

Along with this plan have come requests for investigation of infant mortality in the state with emphasis on the care of the premature. Some work has been done along this line, but it is a very large problem and will take a great deal more work before definite plans can be proposed.

In November the Chairman of the Maternal and Child Health Committee attended an international Conference on Physicians and Schools. At this time a very comprehensive program of cooperative effort between the State Medical Society and the State Department of Education was felt badly needed in Iowa. Some recommendations have been made to the Committee of the State Medical Society, but no definite action has been undertaken as yet.

The above programs are among those requiring completion in some cases and more work for the Committee in the ensuing year.

C. P. PHILLIPS, *Chairman*.

REPORT OF THE COMMITTEE ON MENTAL HEALTH

The Committee on Mental Health met in Des Moines July 18, 1951. It was felt that the committee should use every opportunity to extend, supervise, and encourage all existing programs for mental health in the state.

A member of the Committee was appointed Consultant in Mental Hygiene to the Iowa Federation of Women's Clubs, and advised them in establishing four Institutes in Mental Health in various locations in the state. These Institutes were two-day meetings each, and were sponsored and aided by the Department of Public Welfare and the Iowa Mental Health Authority. Commendable work in organizing these institutes was done by Mrs. E. T. Petersen of Pringhar, chairman of Division of Mental Health of the Iowa Federation of Women's Clubs.

It was decided not to visit Board of Control Institutions this year, but to reaffirm our recommendations as stated last year that:

"With present inadequacy of the care of the psychotic by the state, should they enter into the care of psychoneurosis which in many instances receives as adequate care from their personal physicians? Pri-

vate psychiatrists in the state outnumber those of our state institutions and it is a doubtful benefit to burden the state with cases which can be cared for privately as efficiently, professionally, and economically as by the state.

"The experience of the state in attracting adequately trained psychiatrists demonstrates that increased salaries alone will not attract sufficient qualified psychiatrists. Other considerations are proper living quarters and opportunities for advancement professionally.

"Affiliation of our state hospitals with general hospitals and educational institutions for the training of resident psychiatrists, nurses, psychologists, and social workers is a 'must' for the future program of mental care in the state. When such a training program is available, psychiatric training should be a part of any good general internship."

To the end that these recommendations be activated, the Committee has stood ready to help in any way requested by the Board of Control.

At a meeting of the Executive Council, the State Board of Control through Dr. C. C. Graves requested an Advisory Committee from the State Society. Your president appointed the members of the Mental Health Committee, and added the names of Drs. A. W. Bennett, Iowa City, and C. V. Hamilton of Garner. To date of this report no request for advice has been received.

The committee wishes to stress the advice that Mental Health Clinics should be under the active direction of Doctors of Medicine, and took notice that in some cases the social worker has become the Executive Director.

Members of the Mental Health Committee met with interested groups in advocating the enactment of a law by the last General Assembly authorizing county boards of Supervisors to levy money for detection, prevention, and treatment of mental health cases locally. This provision has been used in several counties to provide funds for carrying on the Mental Health Centers in the county.

At the 1951 meeting of the International Congress on Mental Health a session was held emphasizing the interdependence of mental health and public health. Each should learn the viewpoint of the other, and both should further their interests together.

It is recommended that the Committee on Mental Health be continued in the State Society with additional members at the discretion of the President, and that the committee be designated to advise with the State Board of Control on its request.

JOHN I. MARKER, *Chairman*
HERBERT C. MERILLAT
LEO B. SEDLACEK

REPORT OF THE NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

The Iowa State Medical Society Committee on National Emergency Medical Service is not only concerned with the treatment and the caring for casualties resulting from an atomic explosion, but concerns itself with planning for the care of any mass casualties.

The chairman attended a civil defense meeting in Chicago in which the responsibilities of medical societies, hospitals, and health departments were discussed in relation to civil defense.

This committee has been trying to fit in with the planning of the Iowa State Department of Civil De-

fense. We have been quite successful with this aim, and have had several meetings with Doctor Bierring and his deputy Doctor Zimmerer, who are the medical advisors, for the Iowa Civil Defense organization. From these meetings a definite and comprehensive medical disaster plan will be formulated.

J. W. FERGUSON, *Chairman*.

REPORT OF THE SPEAKERS BUREAU COMMITTEE

The Speakers Bureau, whose main purpose is to aid in the health education of the people of Iowa through its doctors, operates in six areas of service: (1) radio; (2) county medical society meetings; (3) lay meetings; (4) postgraduate courses; (5) cancer institutes; and (6) heart and chest institutes.

(1) *Radio*: Every week the Iowa State Medical Society sponsors two radio programs, one over Radio Station WOI in Ames and the other over Radio Station WSUI in Iowa City. Both are educational stations and make no charge to the Society. The WOI program appears on Thursdays at 11:15 a. m.; WSUI on Tuesdays at 11:45 a. m. Both are 15 minute programs.

Beginning in 1951 the type of program was slightly changed. Previously, we had been sending prepared scripts to the stations and arranging to have them read. We are now using radio talks recorded on platters, prepared by the AMA. These talks come in a series of 13 on one general topic, with specific topics for each 15-minute talk. The committee is very pleased with the way these are being received; they cost very little to the Society, and the stations are much more satisfied with the new set-up.

(2) *County Medical Society Meetings*: During 1951 we provided speakers for 10 county medical society meetings. When a county wants a speaker, or in any way wishes help from us, it usually sends its request through the councilor for that district, who forwards it on to us. This is done because the councilor is more aware of the needs of his counties than we can be and is often very helpful in helping select the right speakers. When we receive a request for a speaker, we refer to our file of available speakers, both in and out of Iowa. This file is arranged both by subject and by name, containing the names of all doctors who have spoken for us previously, plus reports on their success as speakers. We also know what they are best qualified to talk about, and with this collection of information—plus some idea of what the county society would like as a topic—we are capable of sending out a speaker who is both qualified and successful at speaking to that group. We also take into consideration locations, and attempt to send a doctor who has to travel the shortest distance; travel expenses are paid by the county society, plus any hotel bills incurred, etc. There is no charge for the actual speaking.

(3) *Lay Meetings*: Action in this line of service was severely curtailed in 1951, so that we have only two lay meetings to report. One was a County Health Council meeting and the other a women's club meeting.

For 1952 we have a much broader program planned, in which we hope to encourage Federated and Service Women's Clubs to use our services to a much larger extent.

(4) *Postgraduate Courses*: One postgraduate course was held during 1951, in Kossuth County at Algona. This was typical of most postgraduate courses with

six weekly meetings with one or two speakers. They came from Iowa City, Council Bluffs, Sioux City, and Fort Dodge. The Speakers Bureau scheduled all speakers, printed and distributed programs, and sent out two series of "reminder" cards to the doctors who were interested in attending. All such office expenses were paid by the county society, plus the expense of the speakers. To offset this large expense to the county, each doctor was charged \$10.00 for the entire course, payable before the first of the series.

Postgraduate courses are one of the best ways we have of increasing the health education of Iowa. We hope to see a decided increase in postgraduate courses in 1952, especially in the outlying areas. To insure this, we are making plans to offer specific courses to the counties lying outside the areas of the larger cities, rather than waiting for them to make a request for one. We feel the desire is there, and more important, the need.

(5) *Cancer Institutes*: Cancer institutes are promoted in cooperation with the Cancer Division of the Iowa State Department of Health. The State Department offers funds for these courses, which makes them more acceptable to counties who normally could not afford a postgraduate course. We had two cancer institutes in 1951, one in Des Moines and one in Fairfield. The Des Moines institute had speakers from New York and Maryland, Chicago and St. Louis. Fairfield's men came from Rochester, Iowa City, Chicago and St. Louis. Most cancer institutes are one day in length, with two speakers before dinner and two after.

(6) *Heart and Chest Institutes*: There were no heart and chest institutes during 1951. However, funds are available through the State Department for these, also, and they are handled very similar to the cancer institutes.

At a committee meeting in December, plans for 1952 were discussed and new projects decided upon. The Speakers Bureau hopes in 1952 to increase its scope over radio by increasing the number of stations in use; increase its help to the smaller county societies so that their meetings will be more frequent and have larger attendance; encourage lay organizations to ask for medical speakers and program ideas; and increase postgraduate courses by going to the counties instead of waiting for their requests.

ROBERT B. STICKLER, *Chairman*,
HAROLD MARGULIES
CHARLOTTE FISK
G. F. KEOHEN
C. A. BROWN
R. M. WOLFE

The Speaker: The next order of business is supplementary reports of officers. Do any of the officers have a supplementary report over and above that printed in the Handbook?

Dr. Robert N. Larimer: Mr. Speaker and delegates, the following is the supplementary report of the Board of Trustees:

Since preparing our report for the Handbook, construction work has been started on the new office building for the State Society. It is located on 36th Street between Grand and Ingersoll Avenues, and we invite you to inspect the progress which has been made so far.

The building will have approximately 4,000 sq. ft. of space. Half of it is a full basement and the other half is at street level. The first floor will have five indi-

vidual offices, a central stenographic and reception area, a conference room which will accommodate ordinary committee meetings, and a large work area for our machines and storage files. The basement will house the utilities, provide storage space, and also a large meeting room suitable for the Executive Council. If the necessity arises, the entire first floor can be used for office space, and the work rooms can be moved to the basement. The building will be air conditioned.

The cost of the lot was \$5,000 and the cost of the building is set by a firm bid at just under \$32,000. We will have to purchase some new office furniture, particularly chairs and tables for the meeting rooms, and it is our hope that the entire cost for the project will be no more than \$40,000.

There may be some who will question the spending of this large amount of money at this time. The rental situation in Des Moines is peculiar in that the demand for office space is great and the supply is limited. We were offered space in the downtown area, and for an office which would meet our estimated minimum space requirements, about 2,000 sq. ft., the rental is \$6,000 per year. We would have had to pay for remodeling the area to fit our needs, and if we had wished air conditioning this would have been another added cost. We believe it is a good business venture to spend your money for a permanent structure rather than to pay the large rent which was demanded.

As many of you know, the surplus funds of the State Society must be invested in government securities. All of you know the limited return from such securities; in addition, you know that the return from short-term securities is even less than the longer issues. The average return on government issues which we buy is between 2 and 3 per cent. It is a matter of simple arithmetic to demonstrate that amortization of the building cost—not at the rental figure noted above but over a period of ten or fifteen years—will return to the Society a higher percentage of return than \$40,000 invested in government bonds.

Another manner of saying the same thing is that by making a \$40,000 expenditure, which will be recaptured later, we will accomplish what would demand about a quarter of a million dollars capital on a straight income basis. We will have the added advantage of moving into a new building, built to fit our requirements, which will be fireproof and modern. Accordingly, we have taken this step feeling that it is a good business venture which, from an investment standpoint, is perfectly safe.

Last year our surplus exceeded our budget estimates and requirements, and we were able to add \$15,000 to the permanent reserve of the Society. In addition, we were able to put aside \$20,000 for the new building. We hope this year to be able to put aside a similar amount for the building so that its cost will be entirely met by the time we move into it. In other words, we wish to do our own financing without paying any interest or other costs that might be associated with the borrowing of money, and the investment will be recovered by annual payments from the regular budget. We hope that our plans for the new building will meet with your approval.

Since our report was written in the Handbook we have spent considerable time planning a pictorial display of what the Society's many activities encom-

pass. We think you will be surprised if you will spend some time observing the exhibit in the Green Room, and we invite your inspection and ask for your comments on it. The charts which show the duties of officers and the standing and special committees of the House of Delegates are proof of the many phases of activities into which the medical profession has entered.

There are those who wonder why the State dues are high, and how such a large amount of money could possibly be spent. The Board of Trustees is critical of every dollar that the Society spends. Our main criterion for money expenditure is that the State Society and the medical profession will derive some return and possible profit by the expenditure of the money.

If you will look at the exhibit you will notice the large number of committees, most of which are extremely active in their work. Miss McCord has made what she calls a "rough estimate" of time spent on State Society work by physicians, and in the last year it amounted to more than 9,512 hours. She adds, "Actually, this is low, because it does not include overnight stays which are often necessary, and the travel time figured is only estimated." This great contribution is on a voluntary basis, but the Board of Trustees has been very pleased to support these voluntary workers and assist them by authorizing their necessary expenses.

Other projects of the Society which demand a financial support are portrayed in the exhibit, and among these is the television program. The Iowa Society is unique in being one of the very first State Societies to produce and support a regularly scheduled television program, and it is a great compliment to Dr. Bernard that he had done so well on this project. He has arranged for several of our television shows to be kinescoped for later showings. Two of these films will be presented morning and afternoon in the Flamingo Room, and will show you the type of program the State Society is showing over WOI-TV.

Last fall the problem of the doctors and the Internal Revenue Department was brought to our attention. As you know, the Bureau of Internal Revenue is disallowing deductions for assistants' fees and is penalizing some of our members for amounts so deducted. The total of these penalties represents a large sum of money.

The Trustees felt that since the economic lives of so many of our members, not only the specialists but also the general practitioners, were being affected by this situation, properly the Medical Society should take some position in the dispute. Accordingly, shortly after the first of the year the Trustees instructed Mr. Myers, our legal counsel, to expand his activities so that he might be of assistance to our affected members.

Mr. Meyers has participated in many conferences with doctors, their attorneys, and agents of the Internal Revenue Department. He has done considerable legal research, has maintained a clearing house of pertinent information, and has held an all-day conference to which doctors and lawyers were invited.

In addition, the Executive Council and a special committee drew up specific recommendations for future action by the State Society, and procedures for the physicians to follow have been at least partially developed. The trustees have kept in constant touch with the situation and hope to be able to continue

with Mr. Myers' assistance until the final solution of the problem is reached. There have been recent developments, including a Supreme Court decision against the Internal Revenue Department, and at this time we ask your permission to permit Mr. Meyers to report on his activities, and we also ask that his remarks be made a part of this supplemental report.

The Speaker: We will hear from Mr. Myers.

Mr. I. W. Myers: Mr. Speaker and members of the House of Delegates, it is always a problem, in making a report, to know how brief or how long it should be. I will try to make this brief and yet inclusive, because I think your Board of Trustees would like to have you know what has happened in this instance.

The Bureau of Internal Revenue has tried in many instances to determine public policy and the ethics of different groups. It started a little over a year ago, in what was called the Lilly case, involving the decision of fees between an optical company and the doctors, disallowing to the Lilly Company those amounts paid to doctors as deductions. It won that case in the tax court. The Lilly case then went to the Circuit Court of Appeals, and there the government won. They said the Bureau could establish public policy as to the way business should be conducted.

Here in Iowa, a county medical society asked for a formal opinion on this problem. The reply was carried in the Journal: it was presented from a conservative basis on the premise of giving advice in the absence of a final appeal from the court decision. Medical Economics asked if it could run the article, and to that article I added the fact that I thought there was a reasonable chance of beating the government in cases where two professional men were involved, rather than an optical company and a physician.

Questions kept coming in from over the State. The Board of Trustees thought we should establish a clearing house, which was done. This provides an interchange of ideas for doctors who are involved, just as the Bureau has a place where it can turn to discuss all of the cases and pass out information. I believe there have been requests from some thirty communities, and I believe every county in the State has had someone involved in this problem. I can say to you that thousands of dollars are involved in what the Bureau is contending they want doctors to pay.

The Bureau audits were made from the cold figures. Whenever a fee was forwarded from one doctor to another the whole amount was disallowed, irrespective of any facts whatsoever. No deduction was allowed in any amounts.

In one instance, one bill was rendered; the patient was advised one bill was customary; he was shown the cards, and the amounts going to the respective doctors.

This practice existed from 1938 when they brought a surgeon into the community. The general practitioner participated in preoperative care, at the operation, and in postoperative care. The patient remained the patient of the general practitioner in accordance with AMA ethics. Fees were divided on a 50-50 basis, with the family physician acting as assistant. We explained the value of the services of the general practitioner, and so on. Then we were told, after we explained the facts to the income tax people that it was immaterial, and they could determine what the divisions should

be and whether it was fair and reasonable. They thought every case had to be analyzed and were not willing to approve any amount as a standard division of fees.

We then asked them some questions as to what they would do if a plumber was involved and they got a \$10 bill. Would they audit all of the plumbing companies to see whether that included \$6 worth of labor, whether labor got enough of its share, and, if it didn't, were they going to determine the profit of the plumbing organization, and such things. They could not answer.

They asked about some other types of operation. They asked about attorneys. I would say that for years—and we told them so—attorneys were in firms. They had agreements as to the division of fees in that office. There were partnership agreements. Most of them were on a percentage basis.

They asked about clinics, and we told them the clinics were mainly on a percentage basis. They asked about partnerships, and we talked about those and said many doctors are in partnership. They asked about the clinic setup, and it is common knowledge that the surgeon's fees are probably the largest element in the clinic, yet the clinic members share more or less equally in income.

We said we thought there should be some standard method of percentage, and they said it could not be. They gave a key to a part of the whole thing. They said, "Of course, surgeons' incomes generally are higher." What they were driving at was to disallow the deduction to the surgeon, placing him in a higher income bracket which would mean they could collect more taxes. They didn't think the general practitioner's service was worth half of the fee.

We discussed with them the fact that there had been previous audits and they had approved the method of operation generally over the State of Iowa, and they said that was immaterial.

It was interesting to note, when we were about ready to finish the conference, that they said, "Are you interested in compromising this?"

We said, "What do you propose be done?"

They said, "If it is 75-25 per cent, we would consider settlement." Remember, earlier they had said the doctors could not establish a set percentage, yet in the settlement they wanted to do exactly that.

We secured advice from the Commerce Clearing House, we received many suggestions by mail, and then we began work on the elaboration of medical ethics. I know some physicians have felt that there should be no division of fees, that there should always be separate statements, and yet we have a surgeon's suggestion that the Medical Society recognize the family doctor and that this procedure be standardized.

Reports were made to the American Medical Association and the American College of Surgeons of our action.

In March, 1952, doctors and attorneys met, and we had ready for them a complete brief of the law, and by that time we also had the decision in the Lilly case reversed in the Supreme Court of the United States. That was an 8:0 decision, which put a brake upon the Bureau of Internal Revenues being able, through disallowing deductions, to establish what public policy shall be.

The discussion at that meeting dealt with whether

the division of fees was a necessary and ordinary expense, patients' consent, and reversal of the Lilly case.

I would say that in general the attorneys present favored the elaboration of medical ethics, and in general they favored going further in establishing a standard where two or more doctors are involved. Some attorneys had cases in Nebraska and South Dakota.

The attorneys wanted me to do the following things: To secure the Attorney General's opinion upon the consent provision of the Iowa statute, and work has been commenced on that. They wanted work done in Omaha and at Washington, to see if something could be established to terminate all of these cases. They wanted me to sit in on cases, and they wanted to pick the best case and continue to have a clearing house.

On April 16 newspaper articles said the governing board of the American College of Surgeons said it was going to seek the active help of the Bureau of Internal Revenue in putting an end to division of fees. That was not exactly helpful.

From a favorable standpoint, we have information, and it is only oral, that Washington may now accept the Lilly decision, and the only point left in the Iowa cases is the matter of consent. Also, the Omaha division has indicated that it thought a bill which said it covered joint services of the doctors, and named them, would be sufficient.

There is a lull at the present time. In general, the Bureau has audited surgeons' returns primarily, and is not allowing deduction of the amounts they send to the general practitioner. The Bureau has also indicated it might go into audits of other situations. It seems to me its ruling could prevail just as well in a clinic or partnership as it could where two doctors work on a case.

We are hoping that through some of these oral conferences the Bureau may reach some conclusions, and that there will be a speedy termination to this. If there is not, I feel rather confident that these cases can be won in court. They may compel us to go to court. In general I would say that the American College of Surgeons' action is the only thing we have had that has not been favorable.

The Speaker: Thank you, Mr. Myers. May we hear the rest of the report by Dr. Larimer.

Dr. Larimer: Particular mention should be made of three members of our permanent office staff. The expansion of the Society's activities is almost unbelievable. For many years Miss McCord was able to act as a combination executive secretary and general factotum for the Society. That the Society progressed for years is due mainly to the efforts of Mary.

Fortunately, however, you were willing that the Trustees employ someone who might assume some of Miss McCord's responsibilities, who would be available for other public relations activities. The Society is constantly being besieged by organizations and groups for participation in their activities. Some of these are good, and others perhaps not. It would be impossible for any doctor in practice, who might be an officer of the Society, to meet with these many people; more than that, it would need a doctor with a chronically jaundiced eye to look at these many projects and sort out the worthy from the unworthy.

Fortunately, you have provided the State Society with such a man, and you know I am referring to Dr. Bernard. It is impossible to estimate how many

luncheons and dinners he has attended, or the number of hours he has spent talking and listening to people who wished something from the State Society. His activities have made him an invaluable addition to the workings of the State Society, and his position has developed by evolution from being a "general manager" to a position comparable to an executive vice president. Miss McCord then becomes, in fact, an executive secretary.

Another member of our staff is known to all of you, largely by personal contact in your offices. The Trustees feel that in the person of Don Taylor the Iowa State Medical Society has an unusual and valuable individual. This past year and for the coming year the Trustees have felt it proper to share Don with Dr. Olsen and Blue Shield.

The plan is that Don can develop certain younger men for public relations work of Iowa Medical Service. Naturally, this work may be carried on simultaneously with Don's travels for the State Society, to the advantage of both the State Society and Blue Shield. If at any time you have specific problems or specific questions in regard to either of the two organizations, Don will make an effort to contact you and answer your request.

This lengthy and perhaps monotonous report is about closed. One of the most pleasant duties of the Board of Trustees is to give an Award of Merit to certain members of the group who on their record have contributed to the welfare of the Society. The Award winners for 1952 have been chosen and will be presented at the general session Tuesday morning. The Trustees hope that this year's selections will be well received by you.

Mr. Speaker, I move that this supplemental report be approved and adopted.

[The motion was duly seconded, put to a vote, and carried unanimously.]

The Speaker: Are there any other supplemental reports of officers? If not, before we take up the reports of standing committees I would like to read the appointments to reference committees.

Reference Committee on Reports of Officers:

George Braunlich, Davenport, Chairman

E. F. Van Epps, Iowa City

Jay E. Houlahan, Mason City

Reference Committee on Legislation and Public Relations:

Gerald Caughlan, Council Bluffs, Chairman

A. F. Fritchen, Decorah

C. H. Stark, Cedar Rapids

Reference Committee on Constitution and By-laws:

E. M. Kersten, Fort Dodge, Chairman

Craig D. Ellyson, Waterloo

J. B. Thielen, Fonda

Reference Committee on Resolutions and New Business:

Wendell L. Downing, Le Mars, Chairman

C. P. Phillips, Muscatine

C. V. Edwards, Council Bluffs

Reference Committee on General Practitioner's Award:

D. F. Ward, Dubuque, Chairman

P. L. Bettler, Sioux City

W. J. Willett, Manchester

Reference Committee on Miscellaneous Business:

Fred Sternagel, West Des Moines, Chairman

J. C. Donahue, Centerville

O. D. Wolfe, Marshalltown

We will post the location of the meeting places of these various committees. It is the duty of any delegates to appear before them if they have business to take up with them.

The next order of business will be supplemental reports of standing committees of the House. First is the Constitution and By-laws Committee.

Dr. H. C. Scharnweber: Mr. Speaker, I move that the report of the Committee on Constitution and By-laws, as printed in the Handbook, be approved.

Dr. Wolfe: I would like to have the report read to the House.

Dr. Scharnweber: The report is on page 46 in the Handbook.

[Dr. Scharnweber read the resolution contained in the Committee's report, as found on page 46 of the Handbook.]

Dr. Scharnweber [continuing]: As the Constitution now reads, it states, "It shall submit the names of two or more members." Your Committee on Constitution and By-laws felt that changing the Constitution in this manner would do away with the democratic processes in the House of Delegates, so your Committee recommends that the above proposed amendment be rejected.

Voice: Dr. Ward, will you explain the thinking of the Nominating Committee last year in proposing this?

Dr. Ward: It is the Nominating Committee's duty to select at least two members for the office of President-elect. In the past, there has always been someone—the second nominee for the office of President-elect—placed on the chopping block, as we called it in the Nominating Committee. The Nominating Committee felt that if it submitted the name of one man it would be up to the House of Delegates, if it so desired, to make additional nominations from the convention floor.

Dr. R. F. Birge: I think this question resolves itself very simply. Is there only one man available and competent to be our President-elect for next year? Why can't the Nominating Committee name two good men, two good candidates, who are capable of being our President-elect, and let the House of Delegates, by democratic procedures, make its choice?

Dr. C. A. Boice: Might I say just a word, gentlemen? I happen to be the fellow who wrote the first By-law stating "two or more," and that doesn't make it perfect by any means. I don't like the idea that the second man may be "sacrificial," because I was that person a year or so ago, and I didn't feel for a moment that I was being put up to be sacrificed. I was put up with a mighty good man, Don Conzett, and I moved his unanimous election. My own idea is that the By-law should be left as it is.

Dr. W. C. Goenne: Members of the House of Delegates, I personally have been what Dr. Ward calls "on the chopping block" on two occasions. If I were to remove my clothes you will find I don't have a scar on me anywhere.

I am going to call a spade a spade. I have been on the Nominating Committee, and I know what that Committee is. When that Committee comes in with only one nominee for the office of President, I will wager that there are very few men in this House of Delegates who will stand and nominate another man.

If you want to throw it open, let's do away with the Nominating Committee. Let's nominate two or three

men from the floor for the office of President-elect, and let's nominate two or three men for the other offices. Then, on the first ballot, the two high men for President-elect will be the nominees; then you will vote on those two, and the high man will become President-elect. In that way you will have a democratic organization. You don't have a democratic organization when you bring in only one nomination.

Dr. Wolfe: As a member of last year's Nominating Committee I am grateful for this expression of sentiment.

Dr. D. F. Ward: I want to back up what Dr. Wolfe said in regard to the feelings of the Nominating Committee in this matter. As far as the Nominating Committee is concerned, we are glad to have this expression, because it tells the Nominating Committee you want the field wide open. I feel sure that this year's Nominating Committee will keep the field wide open.

Dr. Scharnweber: I move that the following report of the Committee on Constitution and By-laws be accepted: That the Constitution not be changed to read, "The Committee shall report the results of its nominations to the House of Delegates. It shall submit the names of one or more members of the Society for each office to be filled at the annual election. No two candidates for President-elect shall be named from the same county."

To clarify it, your Committee recommends that that paragraph or the whole resolution be rejected, and that the Constitution remain as it is now, stating that the Nominating Committee shall name two or more candidates for President-elect.

[The motion was put to a vote and was carried unanimously.]

The Speaker: Are there further reports of standing committees?

Secretary Phillips: Mr. Speaker, I move that the reports of the following Committees be accepted as printed in the Handbook: Grievance; Legislative; Medical Education and Hospitals; Medicolegal; Medical Service, and Publications.

[The motion was seconded, put to a vote, and carried unanimously.]

The Speaker: We will now hear the report of the Necrology Committee.

Secretary Phillips: Dr. I. K. Sayre, Secretary of the Committee on Necrology, has asked that I make this report.

[The audience arose and stood in silent tribute as the list of members deceased in 1951 was read.]

The Speaker: Are there any omissions or corrections to be made in the report of the Necrology Committee? If not, the report will stand approved as read.

Are there further supplementary reports of standing committees?

President Konzett: We have a joint report of the Committee on Medical Education and Hospitals and the Committee of Four of the House of Delegates.

JOINT REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS AND THE "COMMITTEE OF FOUR" OF THE HOUSE OF DELEGATES

1. We are in unanimous agreement that a strong Dean from outside the present faculty is essential to the best interests of the State University of Iowa College of Medicine.

2. This Dean should have full authority over the medical school and the University Hospitals.

3. The Dean should be responsible only to the President of the University and the State Board of Education.

4. It is highly desirable that any Dean appointed have the support of the Iowa State Medical Society.

5. It is recommended that steps be taken for the immediate procurement of a satisfactory Dean. The committee has knowledge that there have been a number of eminently qualified candidates considered, some of whom have visited the campus in recent months and were interviewed by University officials, but have not seen fit to accept the position.

6. We view with alarm the potential encroachment by the Veterans Administration on the private practice of medicine. We are further concerned with the drain of teaching personnel from the University to these institutions to the detriment of our medical students. The committee wishes to make it clear that it has entire sympathy with the program of medical care for service-connected disabilities. It would recommend that this whole problem be thoroughly studied and a report submitted to this body in 1953.

7. The committee reiterates its willingness to continue cooperation with the State Board of Education and with University officials towards bringing about a speedy and desirable solution to these pressing problems.

Respectfully submitted,

LEE F. HILL

JOHN H. RANDALL

F. HAROLD ENTZ

THOMAS F. THORNTON

GEORGE H. SCANLON

BEN T. WHITAKER

DONALD C. CONZETT

President Konzett: The same Joint Committee wishes to present the following resolution:

"Whereas, for the past few years the Committee on Medical Education and Hospitals has had many demands made upon it in regard to the problem of the College of Medicine of the State University of Iowa, and

"Whereas, during the past two years a second committee has been named by the House of Delegates to work with the Board of Education in regard to these same problems, and

"Whereas, we still have no Dean of the College of Medicine, and

"Whereas, there are still many matters concerning medical education in which we have a vital stake and should work for their solution; now, therefore, be it

"RESOLVED: That the personnel of the Committee on Medical Education and Hospitals be increased from three to five members; and be it further

"RESOLVED: That the By-laws be amended so that Chapter IX, Section 1, line 11, final figure (3) shall be changed to read (5), and Section 11 of the same Chapter shall be changed to read, 'The Committee on Medical Education and Hospitals shall consist of five members who shall serve in this State in a similar capacity as the Council on Medical Education and Hospitals does for the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education;' and be it further

"RESOLVED: That the approval of this House of

Delegates is hereby asked for presenting this amendment from the floor."

Mr. Speaker, I *move* that this resolution be referred to the Reference Committee on Constitution and By-laws.

[*The motion was seconded, put to a vote, and carried.*]

The Speaker: Are there any other supplementary reports of standing committees of the House of Delegates?

We will refer the first part of Dr. Conzett's report to the Reference Committee on Medical Education and Hospitals.

If there are no further supplementary reports of committees, we will pass on to the reports of special committees of the House of Delegates and the President.

Secretary Phillips: Mr. Speaker, we have reports of the following Special Committees of the House of Delegates and the President: Baldrige Beye Memorial Loan Fund Committee; Cancer; Fracture; General Practice; Heart; Historical; Industrial; Maternal and Child Health; Mental Hygiene; National Emergency Medical Service; Public Relations; Scientific Exhibits; Speakers Bureau; Tuberculosis, and American Medical Education Foundation.

I *move* that their reports be accepted as printed in the Handbook.

[*The motion was seconded.*]

Dr. Arthur W. Erskine: I should like to have the report of the Cancer Committee exempted from this motion temporarily because, as we said in our report, the progress that has been made toward the fulfillment of the major objectives of the Cancer Committee, we believe, has been due largely to the complete and happy harmony that exists in this State between the three organizations interested in cancer control—the Cancer Committee of the Society, the Division of Cancer Control of the State Department of Health, and the Iowa Division of the American Cancer Society.

You are familiar, of course, with the work of the Cancer Committee of this Society; you are familiar also with the work of the American Cancer Society, because you receive its literature. However, I know that very few members of the Iowa State Medical Society are as familiar as I believe they should be with the work of the Iowa Division, and therefore I would like Dr. Zimmerer, the Director of the Division of Cancer Control, to give you an abstract of his 22nd semi-annual report, and have it appear as a part of the Cancer Committee's report.

Mr. Speaker, I *ask* that the report of the Cancer Committee be omitted from this motion, and further that if and when Dr. Zimmerer arrives, he be given the privilege of the floor and be allowed to read a short report.

Secretary Phillips: I *accept that, Dr. Erskine.*

[*The motion was put to a vote and was carried unanimously.*]

The Speaker: Are there any supplementary reports of special committees of the House of Delegates and the President to be heard at this time? If not, we will proceed to memorials and communications.

Secretary Phillips: We have none, Mr. Speaker.

The Speaker: We are now open for new business, the first of which has to do with life memberships.

Dr. Thornton, did you wish to make a supplementary

report on the American Medical Education Foundation?

Dr. Thomas F. Thornton: Mr. Speaker, Dr. Zimmerer just came into the room.

The Speaker: Now that Dr. Zimmerer is here, we will ask him to give his report of the Cancer Committee.

Dr. Edwin Zimmerer: Mr. Speaker, ladies and gentlemen: The Division of Cancer Control of the State Department of Health was organized in 1941. At that time the State Medical Society was carrying on a post-graduate course in cancer. There was one clinic in the State, at Broadlawns, which has now been discontinued—the only one that has been established and discontinued. Very little was being done by the Cancer Society, and in its best years it collected about \$8,000, half of which went to the National, which left very little to be used for cancer control in this State.

From the very beginning there was the closest rapport between the State Medical Society, the State Division of the Cancer Society, and the Department of Health. We have tried with our federal appropriations to spend the money where the work was being done, and as a result of that the federal funds which came in to the State were paid to doctors and radiologists and hospitals that actually took care of cancer patients in the clinics.

Today approximately \$150,000 has been paid to doctors, clinics and hospitals in this State from these funds. We have today nine tumor clinics strategically located throughout the State, and approximately 3,000 patients annually are seen in these clinics. We conduct a tumor registry in which more than 8,000 case histories, in addition to some 6,000 slides, are recorded. The fact that we have slides as well as the complete histories makes our registry of particular value in the study of tumor cases in future years.

In addition to the cases reported by the clinics, we are able to pay the approved hospitals of the State some money for the transcript of cancer patients on forms furnished by us.

During the last few years we have conducted 23 institutes for physicians throughout the State, more recently in the smaller county seats so as to attract the general practitioners from the surrounding areas. Six institutes for dentists and four for nurses, one of them a three-day institute, also were conducted. A cancer bulletin is being sent to all physicians and osteopaths in the state bi-monthly.

Since 1946 the Division itself, not counting the many other doctors who volunteered for this service, gave 415 talks to lay groups, including county medical societies and particularly lay groups, with an average attendance of 110.

During this year, with the cooperation of the State Medical Society, we conducted a prevalence study of cancer existing in 1951. The response was splendid: 87 per cent of the physicians of the State, 79 per cent of the doctors of osteopathy and 98.9 per cent of the hospitals responded. More than 75,000 cases of cancer were reported. Of course there were many duplications, since one case of cancer might be reported by the general practitioner and again by the roentgenologist or the hospital. We believe it will result in between 20,000 and 25,000 cases of cancer which existed in this State in 1951.

This work was conducted with the assistance of the National Cancer Institute, and the tabulations are now

in its hands. Within the next two or three months we expect to have the published report, a copy of which will be sent to every physician. It tabulates the cases according to counties, the site, the number of months that passed between the diagnosis and first treatment, and so on. This study is the first one that has been conducted in a statewide area in the country, and the results are being watched very closely by workers in cancer control throughout the nation.

At the same time we have been conducting an evaluation study of audiovisual methods in education, particularly in health education, by showing the breast self-examination film, which I am sure all of you have seen, to as many women as possible. We believe that there are some 400,000 women in the State over the age of forty, and hence subject to cancer of the breast. We have already shown the film in about 5,000 showings to more than 300,000 women in the State of Iowa.

Some 60,000 names and addresses are on file, and about the first of July we are going to start sending a questionnaire, trying to ascertain, first of all, whether the individual who saw the film put into practice its teachings, that is, if they persisted in the monthly examination of their breasts as they are taught, and whether there was anything found; if so, what was done about it, and whether it was a case of malignancy or not, and what the outcome was. We believe this is going to be a very interesting study, and we appreciate the cooperation of the profession not only in the evaluation study but also in the prevalence study mentioned earlier.

I am sure Dr. Erskine has spoken of the splendid cooperation that exists between all of the agencies interested in cancer control, the Cancer Society, the Cancer Committee of the State Medical Society, and the Division of Cancer Control of the State Department of Health, which I represent. For this we are truly grateful. Thank you.

The Speaker: Dr. Erskine, do you have anything to add to your report?

Dr. Erskine: May I make a motion?

The Speaker: Yes, sir.

Dr. Erskine: I move that the report of the Cancer Committee, including the supplementary report of one of its members, the Director of the Division of Cancer Control of the State Department of Health, be approved.

[The motion was seconded, put to a vote, and carried.]

The Speaker: We will now hear the supplementary report of the American Medical Education Foundation, by Dr. T. F. Thornton. Dr. Thornton, I understand you have a supplementary report.

Dr. Thornton: Mr. Speaker, and members of the House, I would like to ask permission of the House to postpone this report until the evening session. Mr. Staudacher, from the American Medical Association, who is the secretary of this fund, will be here to address the House; therefore, if it is agreeable to the House, I would like to postpone my report until then.

The Speaker: Thank you, Dr. Thornton. We will hear your report later this evening.

Are there any further supplementary reports of special committees?

We will continue with new business. The first item concerns life memberships, which will be reported upon by the Secretary, Dr. Phillips.

LIFE MEMBERSHIPS

The following applications for life membership are made on the basis of 50 years practice and 30 years membership. All have been checked and found eligible.

Audubon, P. E. James, Elkhorn
Boone, N. M. Whitehill, Boone
Buchanan, F. F. Agnew, Independence
Clarke, F. S. Bowen, Woodburn
Dallas-Guthrie, Channing G. Smith, Granger
Dubuque, E. R. Young, Dubuque
Fremont, Kenneth Murchison, Sidney
Hardin, C. M. Wray, Iowa Falls
Johnson, Arthur Steindler, Iowa City
Kossuth, P. V. Janse, Algona (1953)
Kossuth, C. H. Cretzmyer, Algona
Linn, A. E. Crew, Marion
Linn, G. W. Gearhart, Springville
Linn, R. L. Mantz, Cedar Rapids
Linn, Emma J. Neal, Cedar Rapids
Linn, F. G. Murray, Cedar Rapids
Lucas, G. F. Niblock, Derby
Monroe, G. A. Jenkins, Albia
Polk, W. B. Chase, Sr., Des Moines
Polk, S. E. Lincoln, Des Moines (1953)
Pottawattamie, Matthew Tinley, Council Bluffs
Poweshiek, C. E. Harris, Grinnell
Scott, A. P. Donohoe, Davenport
Scott, G. F. Harkness, Davenport
Tama, G. F. McDowall, Gladbrook
Webster, A. W. Lundvick, Gowrie
Woodbury, G. E. Rinker, Oto (1953)
Woodbury, F. H. Roost, Sioux City

The following requests are made on the basis of disability:

Clayton, C. W. Keith, Strawberry Point
Dubuque, H. G. Langworthy, Dubuque
Hamilton, J. H. Romine, Webster City
Johnson, D. F. Fitzpatrick, Iowa City
Johnson, E. L. Titus, Iowa City
Jackson, F. J. Swift, Sr., Maquoketa
Kossuth, Pierre Sartor, Titonka
Marion, F. M. Roberts, Knoxville
Polk, D. F. Crowley, Des Moines
Polk, John Russell, Des Moines
Montgomery, Thomas F. Thomsen, Red Oak

Secretary Phillips [continuing]: Mr. Speaker, I move that the House of Delegates accept these members as life members of the Society.

[The motion was seconded, put to a vote, and carried.]

The Speaker: Next is the general practitioner's award.

Dr. E. B. Hoeven: Is it necessary to make a formal presentation?

The Speaker: Yes.

Dr. Hoeven: On behalf of the Ottumwa County Medical Society I wish to present the name of Dr. C. A. Henry, of Farson.

Dr. C. H. Cretzmyer: I would like to nominate Dr. Pierre Sartor, of Titonka, who has been at it for 56 years and still is.

Dr. P. L. Bettler: Mr. Speaker, the Woodbury County Medical Society has seen fit to present the name of Dr. Roy Conmey, of Sergeant Bluff, Iowa. Dr. Conmey has been in practice for 46 years.

Dr. F. G. Ober: Mr. Speaker, I would like to place

in nomination Dr. Walter Sternberg, of Mount Pleasant, on behalf of the Des Moines County and Henry County delegations.

The name of Dr. J. W. Sellards of Clarinda was also submitted.

The Speaker: These names will be referred to the Reference Committee on General Practitioner's Award.

Are there any other candidates for the general practitioner's award to be presented at this time?

The next order of business has to do with the Board of Medical Examiners, which may take some time. I wonder if it would be wise to recess now. If there are no objections, the meeting will stand recessed until 7:30 p. m.

[The meeting recessed at 5:30 p. m.]

SUNDAY EVENING SESSION

April 27, 1952

The meeting reconvened at 7:45 p. m., Dr. Eugene Smith, Speaker of the House of Delegates, presiding.

The Speaker: Gentlemen, again we will call the House of Delegates to order. If any delegates have come in since the afternoon session we would like to have them stand and be checked off on the attendance record.

[The roll was checked.]

The Speaker: We will continue where we left off this afternoon, and will call for the report of the American Medical Education Foundation, by Dr. Thomas F. Thornton, Sr.

Dr. Thornton: Mr. Speaker and members of the House, it gives me great pleasure at this time to present to you Mr. Russell Staudacher, of the AMA staff, the Executive Secretary of the American Medical Education Foundation.

Mr. Russell F. Staudacher: Mr. Speaker, members of the House of Delegates, and friends: I am very happy to be here to speak to the House of Delegates for many reasons, and the most important one occurred yesterday afternoon. I am a neighbor of Leo Brown, who directs the public relations activities of the AMA, and Leo had just received word from several sources about the wonderful activity being carried on by the medical profession in Iowa to alleviate the suffering caused by the Missouri River flood which is causing a great amount of property damage. Leo was very pleased, and he pointed out again the great public relations effects of gestures such as that which come as a genuine contribution on the part of American doctors, with no prompting, and for which the doctors ask no pay or anything else.

THE AMERICAN MEDICAL EDUCATION FOUNDATION

Years ago the noted philanthropist, Julius Rosenwald, declared that he found it "nearly always easier to make \$1,000,000 honestly than to dispose of it wisely." Most of us have not solved this first problem but in connection with the second problem, The American Medical Education Foundation today is helping establish a welcome, wise and worthwhile program for financial aid to medical education.

America today is in a new era of giving. A pater-

Address delivered at Des Moines, Iowa, House of Delegates, Iowa State Medical Society, April 27, 1952.

nalistic Federal government has entered many areas which used to be a first charge upon the public purse. Income-tax rates, partly to meet the government's share in these new charges, (social security, etc.,) but in a greater measure because of the heavy costs of past, present and future national defense, have arisen to heights undreamed of a decade ago. (In 1939 the applicable surtax on a \$100,000 net income was 55 per cent; today it is well above 90 per cent.)

This fact affects the stream of giving in diverse ways. It limits the large individual fortunes of the past which were the source of large gifts. On the other hand, the 15 per cent deductible provision on charitable gifts has helped to encourage contributions by making giving almost costless for persons in high-income brackets. The Collector of Internal Revenue has now taken over Viola's speech in Twelfth Night: "What is yours to bestow is not yours to reserve."

The past decade has seen a sharp decline in income from most investments and from interest rates generally. A crystal ball will show little change in the future. The effects of this on giving are many. Welfare and educational institutions who formerly derived much of their annual income from endowments, find themselves in desperate financial straits. Potential givers, whose income is derived chiefly from investments, have less from which to give, and finally, contributions to endowment funds, heretofore an effective means of keeping schools and institutions, are no longer very productive in terms of annual income, and, therefore, have dwindled in number.

With particular reference to the medical schools of the States, the end of World War II found them fighting a losing battle against the forces of inflation, rising costs and the decreased income from endowment previously mentioned. The problem was compounded by a call on the schools to expand their enrollments and to make provision in their teaching programs for the rapid advance of medical science and a broadened concept of medicine's role in the community. In recent years ample and unprecedented sums have been made available for research but support of basic teaching budgets has failed to keep pace with essential needs.

Convinced that an active program for additional financial support would have to be undertaken if the medical schools were to continue to provide the nation with an adequate number of well trained physicians, several groups in 1948 began a serious study of methods of raising funds on a national scale for the support of medical education. These groups, which included leaders of the medical profession, medical educators, university presidents and outstanding public citizens, joined together in the spring of 1949 to sponsor the establishment of the National Fund for Medical Education. The objective of this organization is to raise annually from the medical profession, business, industry, labor, agriculture and other groups, substantial sums for the unrestricted use of the medical schools in support of their teaching programs.

By late 1950 the organization of the National Fund had advanced to the point where it became desirable to plan a definite program for securing contributions from the medical profession in support of the Fund. In December 1950 the American Medical Association appropriated \$500,000 as a nucleus for the sum to be raised by the medical profession in 1951. A few weeks

later the Association sponsored the establishment of the American Medical Education Foundation, a not-for-profit corporation under the laws of the state of Illinois. The purpose of our Foundation is to provide an instrument through which individual physicians, state and county medical societies and other professional organizations can make their contributions in support of medical education.

From its inception the Foundation has worked in closest cooperation with the National Fund for Medical Education. The officers and staffs of the two organizations have conferred frequently for the purpose of coordinating activities. The National Fund's administrative expenses have been provided for by grants from the American Medical Association and various philanthropic foundations.

The National Fund is designed to function on a wholesale basis and its objective is to raise funds from corporations and other organized groups. The AMEF on the other hand is conceived as a retail organization to raise funds from members and friends of the medical profession.

At this point, I should perhaps explain that three Directors of the Foundation have been members of the Fund's Advisory Council from the start. This Advisory Council made the following recommendations to the Trustees of the National Fund with respect to the making of grants to the medical schools. Their recommendations were that there be three classes of grants designated as Class "A," "B," and "C" grants.

Class "A" grants to be a uniform annual sum given to every approved medical school in the United States.

Class "B" grants to be a uniform annual sum per student to be given to every approved medical school in the United States.

Class "C" grants to be awarded to individual medical schools on the basis of special needs and problems.

In any given year, the size of the Class "A" and "B" grants and the availability of Class "C" grants would be determined on the basis of the total sum raised for the year.

The thinking behind these formulae is obvious. Since the Foundation and the Fund are national efforts, all schools should benefit from their activities. This is provided for by the uniform Class "A" grants. At the same time some consideration must be given to the differences in the loads carried by the individual schools and this is provided by the Class "B" grants which are made on a per capita basis. Finally, the Foundation and the Fund should be able to give special help to schools with special problems. The Class "C" grants provide for such help.

Actually, during the first year, only sufficient funds were raised for Class "A" and Class "B" grants and these, totalling just over one and a half million dollars were only less than half the size that had been hoped for. Each of the four year schools received a Class "A" grant of \$15,000 and a Class "B" grant of \$17.00 per student, which averaged out at about \$5,600 per school, or in the case of your medical school, \$7,174.00, or a total of \$22,174 during 1951.

In future years the Fund hopes to be able to distribute at least four million dollars annually in "A" and "B" grants and to have further sums available for Class "C" grants.

In comparison with the overall operating budgets of the medical schools, these initial grants may seem small. Their importance and significance is increased,

however, when it is realized that for many of the schools they constitute the largest amount of totally unrestricted money that the schools have had available in recent years. These grants have thus had a useful value far in excess of the actual number of dollars involved. That this is so has been attested to by many schools that have reported that these grants have enabled them to meet urgent needs such as employing additional instructors, providing small but vitally important salary increases for underpaid teachers or securing badly needed equipment and teaching aids.

During 1951 the Foundation raised a total of just over \$745,000. This includes the \$500,000 originally contributed by the A.M.A. Contributions were received from 1811 individual physicians, 33 organizations and 33 lay friends of the profession. Contributions from Iowa numbered 102 with a dollar total of \$5,510.00.

To illustrate the momentum that has been gained, however, it can be pointed out that in January 1951 only 17 contributions were received from individual physicians while in January of this year 531 contributions totalling more than \$33,000 were received. Further proof of the forward movement is the fact that contributors for the first three months of 1952 were more than all of 1951 combined, an accomplishment even more remarkable in view of the fact that the 1952 campaign proper didn't begin in most states until April. In the period between now and June 30, the Directors of the Foundation are optimistically hoping the 1952 goal of at least two million dollars can be reached. The work of individual and state medical societies such as yours will do much to make this possible.

Considering that the medical profession and the state societies were called on with little warning in 1951 to take part in this important effort, the Directors found no cause to be discouraged. With the experience of last year behind them and with more time for planning available this year, they are confident that the results of this year's campaign will be far more successful.

I now would like to discuss briefly certain major policies of the Foundation which are helpful in understanding the mechanics of contributing.

1. As I have already mentioned, the funds raised by the Foundation are for the unrestricted use of the medical schools. The Directors of the Foundation properly feel that we must bend over backwards to avoid even the appearance of tying strings to this support.

2. All the expenses of the Foundation are being met by the American Medical Association. This means that every dollar contributed to the Foundation is passed on without any deduction of any kind to the medical schools.

3. Physicians may earmark their contributions to the Foundation for a specific school. These contributions will go in full to the schools for which they are earmarked and will be over and above the grants from the unearmarked funds raised by the Foundation and the National Fund. It is requested, however, that contributions from organizations be unearmarked, since they are given on behalf of physicians who have allegiances to and interests in many different schools.

4. The Foundation does not wish to impede or detract from the fund raising activities of any individual schools. To avoid possible competition with the schools, the Directors of the Foundation therefore

have voted that their annual reports should include the names of those physicians contributing to the Foundation, as well as those who the schools report have made a direct contribution to the medical school.

The advantage of making contributions to a medical school through the Foundation are that the larger the sum raised by the Foundation, the more of a stimulus it will be to business, industry and other groups to contribute to the National Fund on the basis that those who help themselves are most deserving of help and secondly, swelling the total raised by the National Fund will make it possible to collect certain contributions that are contingent upon the National Fund's achieving certain goals.

In closing, I should like to join Doctor Henderson and the Directors of the Foundation in expressing appreciation to all of you who have signified your willingness to work on behalf of the Foundation. We know that it will involve sacrifice and hard work. We hope that you will consider the satisfaction of having played a leading role in one of the most important and constructive programs ever undertaken by the medical profession a worthwhile reward for your efforts.

The medical profession has taken pride in its many contributions to the advancement of medical education in the last half century. You cannot rest on your laurels, however. New problems have created new responsibilities and it is hoped that, through the Foundation, the capacity to meet these responsibilities can be proven.

Upon the success of this entire program depends in large measure the future success and freedom of medical education in this country.

R. F. STAUDACHER
Executive Secretary
American Medical Education Foundation

The Speaker: Dr. Thornton, do you have anything to add to your Committee's report?

Dr. Thornton: Mr. Speaker, our President selected me to be Chairman of the fund raising campaign in Iowa. I attended a meeting in Chicago in February, at which time we received instructions on how we should carry on this campaign.

The response of the physicians of Iowa and of the country to the American Medical Education Foundation may decide the future of medical education in this country; in fact, it may decide the future of medical practice in this country. If we fail in this endeavor we will undoubtedly have to put up with the consequences. It is a matter of whether we help in this effort or not.

The American Medical Education Foundation represents the doctors of the nation, and the National Fund for Medical Education represents the industry of the country. They are two entirely different entities. As Mr. Staudacher pointed out, there are many insurance and industrial companies that have made a contingent subscription to this fund. If the medical profession reaches a certain figure, they will increase their giving to the fund.

As Mr. Staudacher mentioned, these contributions are deductible from your income tax. We decided the best procedure would be to have every delegate and alternate delegate serve for his county. In Iowa we have one delegate for every 25 members or major part thereof. We also have an alternate delegate for that number. The most you would have to see

would be 17 or 18 members in order to cover every man in the state.

We have little pledge cards provided by the Iowa State Medical Society, which say, "I wish to contribute to the financial needs of our medical schools as follows:" and they allow you to make a pledge in any one of several ways. Token gifts are not sufficient to put this over. We are going to have to dig down a little deeper. I think it would be little enough for every member of this Society to pay \$100 into this fund every year, to remain free. If we don't do that we will be sunk.

The doctors of Iowa have never failed in any undertaking, and I am sure the medical profession of Iowa will be behind this campaign and will do its part.

Thank you very much.

The Speaker: You have heard the report of the American Medical Education Foundation by Dr. Thornton and Mr. Staudacher. What is your pleasure, gentlemen?

Dr. Thornton: I move that the report be accepted as read.

[The motion was duly seconded, put to a vote, and carried.]

The delegates then voted that the pledge cards be mailed to them.

The Speaker: Under new business we have a matter of interest to the House concerning the Board of Medical Examiners. Dr. Woods will report on this.

Dr. Woods: Mr. Speaker, Mr. President, and members of the House of Delegates: As Chairman of the Board of Medical Examiners I take pleasure in presenting to you at this time a member of the Board who needs no introduction to this body. It is a pleasure to present Dr. H. E. Farnsworth, of Storm Lake, who will tell you something about the problems, duties and responsibilities of the Board of Medical Examiners. Dr. Farnsworth.

Dr. Farnsworth: The Iowa State Board of Medical Examiners has requested this opportunity to present to the House of Delegates certain facts pertaining to medical licensure in Iowa. Times have changed. The Board of Medical Examiners for many years was just one of those necessary things in life; it had a certain job to do, a job devoid of glamour and with scant reward aside from the feeling of a duty well done. After many years of innocuous existence the Iowa State Board of Medical Examiners two years ago was suddenly dislocated into the foreground of pitiless publicity. We were told we were antiquated and that much of what we did stemmed from the accumulation of dead wood that cluttered up our rules and regulations. We were told that many communities in Iowa could have a doctor in their midst if we would just grant licenses to displaced physicians from across the seas. Nothing was said about the all important task of evaluating the credentials of these foreign physicians, many of whom could not speak a word of English. Nothing was said about the basic science law of Iowa, a requisite demanded of all applicants for licensure. Nothing was said about the United States government's rule that no foreign born shall have the right of franchise or become an officer in the armed forces until full citizenship is attained. No, not one of these things was mentioned and yet the demand was made that the Board of Medical Examiners admit these displaced physicians to examination and grant to them all the rights, privileges and immunities pertaining to the degree of M.D. How strange, this sudden solicitation and tender regard for the foreign

born! The public was led to believe that the matter of citizenship was all that prevented an influx of foreign physicians into the town and hamlets of Iowa. What an absurdity!

These are some of the reasons why we have come before this body to present certain facts. There exists also among some of the rank and file of our profession a misunderstanding of the duties and responsibilities of the Board of Medical Examiners. So then, in the following we will show what the law of Iowa says a Board of Medical Examiners must do, what it may do and what it cannot do. In a rather prosaic manner let us look at these facts.

By reason of the laws of Iowa, the jurisdiction of the Board of Medical Examiners is confined to three general categories:

1. The giving of examinations to applicants for licenses to practice medicine and surgery.
2. Powers and duties in respect to reciprocal licenses.
3. Power to recommend reinstatement of lapsed licenses without examination.

As we go a little more into detail in regard to the Board of Medical Examiners we shall review briefly its place in the scheme of things in the State of Iowa. The Board consists of three members who are appointed by the governor for a three year term. Each examiner must be licensed to practice medicine in Iowa. He shall be actively engaged in practice and must have been so engaged for a period of five years previous to appointment. And finally, he must be a graduate of a reputable school of medicine. For the services of the examiner the rich State of Iowa pays the munificent sum of \$10.00 a day with traveling and hotel expenses additional.

Examinations are given at such times as may be fixed by the Department of Health. Such examinations may not exceed four each year and one of the examinations must be given at the University Medical School in Iowa City at the close of the school year. Prior to each examination the Department of Health is required to transmit to the Board a list of candidates who are eligible to take the examinations. The Department may call on the Board or any member for information relative to the eligibility of any candidate.

The law of Iowa provides that the Board shall establish rules for the following:

a. Conducting examinations, grading examinations and passing upon the technical qualifications of applicants as shown by such examinations. The Board is also required to certify to the Department of Health the names of the successful applicants.

b. The Board is also given authority to give partial examinations to any applicant who has completed a portion of his professional course. Along with this the Board can establish by rule the portion of the course which shall be completed prior to the partial examinations and the subjects to be covered.

In the field of reciprocal licenses the Board has several powers and duties. Once a year the Department of Health lays before the Board the requirements of other states for the practice of medicine and surgery. The Board examines these requirements, and, after such inquiries as it may deem necessary, the Board certifies to the Department of Health the states with substantially equivalent requirements to our own and indicates with whom we should enter into reciprocal relations. Further, in respect to reciprocity, the Board has the power to provide by rule that the Department of Health shall not enter into

reciprocal relations with another state unless applicants from such other states furnish the Department with proof of active practice for a certain period of time, to be fixed by the Board, and the Board may require such applicants to pass a practical examination as shall be prescribed by the Board. Also, when other states change their requirements for licenses to practice medicine, the fact of such change is determined by the Board and certified to the Department. This is done to enable the Department of Health to determine if present reciprocal relations should be discontinued on account of lower standards in such other states.

The law also provides that every member of the Board of Medical Examiners shall report to the Department of Health any and every person who he believes is engaged in the practice of medicine without a license or anyone who is operating as an itinerant practitioner. In the case of a lapsed license the Board may recommend a reinstatement without examination or the Board may require examination.

It is to be remembered that all rules adopted by the Board are subject to the approval or disapproval of the Attorney General so that whenever the Board adopts a rule, that rule is subject to the approval or disapproval of the Attorney General as to its form and legality.

In this manner we have outlined what the Board of Medical Examiners must do and what it may do. We come now to what it cannot do. *The Iowa State Board of Medical Examiners has no jurisdiction to enforce the practice acts of this state. We have no power of enforcement of any of the laws pertaining to the medical practice act. The Board has no power to revoke or suspend or cancel any license after it is once issued.* We wish to emphasize this point since herein lies some of the misunderstanding as regards certain duties of the Board. In further explanation of what the Board of Medical Examiners cannot do it must be remembered that the Board has no power to do anything other than those things specifically set forth under the headings of what the Board must do and what it may do.

In conclusion let it be shown that the criticism of the present Board of Medical Examiners is confined to two procedures:

1. The rule of the Board, which was adopted many years ago, that full citizenship be a cardinal requisite before anyone shall be admitted to examination to practice medicine and surgery in the State of Iowa. We still feel this is a good rule and we are confident future events will sustain us in this belief.

2. The resident physician. The present Board has repeatedly called to the attention of the Department of Health the fact that many resident physicians are practicing medicine without a license. In so doing it must be remembered that the Board was acting according to the law of Iowa and not because of some rule made by the Board.

The Board of Medical Examiners appreciates this opportunity to come before the House of Delegates and tell you what the Board must do, what it may do and what it cannot.

The Speaker: Dr. Woods, do you have another part of your Committee's report to make?

Dr. Woods: Mr. Speaker and members of the House, Dr. Farnsworth just told you what the Iowa State Medical Board of Examiners must do, what it may do, and what it cannot do.

The recent ruling of the office of the Attorney

General has added greatly to what the Board cannot do. That ruling has nullified the most important consideration a Board should give to any foreign doctor who applies for permission to take the examination.

The Medical Practice Act of the State of Iowa is now 50 years behind the times. As a contrast to the situation existing here in Iowa, the Iowa State Board of Medical Examiners is happy to bring to this meeting a man from a neighboring state, who will tell you what can be done and what is being done in matters of medical licensure in this year of 1952.

The Board has the pleasure of presenting to you Mr. Manly Brist, of St. Paul, Minnesota, the attorney for the Minnesota Medical Society and the Minnesota State Board of Medical Examiners.

Mr. Manly Brist: Mr. Speaker and members of the House of Delegates: I want to disarm you at the very start by telling you that I am not an expert. I didn't come here to tell you how to run either the State Board of Medical Examiners or the Medical Society. Naturally, I regard it as an honor to be invited to come to this meeting. I have been asked to say a few words about the law in the State of Minnesota, how the Board operates, and perhaps a few words about the problem of licensing so-called displaced physicians.

I got into this work by working for a lawyer who defended doctors and hospitals in malpractice suits. Back in 1927 some of the members of the medical profession at home were not too happy with the situation then existing in the Medical Board of Minnesota, and that is said with all due respect for the doctors who served on the Board at that time. They had to work with what was given them at the time, and under obvious handicaps. I will mention one or two of those handicaps.

For the first 25 years that Minnesota was a State there was no such thing as a Board of Medical Examiners in Minnesota. From 1858 to 1883 the State had no Board. In 1883 the Legislature created the first Medical Board in Minnesota, and for the next 44 years no source of adequate funds was provided for it.

You would hardly expect the Board to do a good job without money. In making this observation about the failure to provide the Board with funds, I am not criticizing our Legislature; I have been to all of the sessions of our Legislature, starting in 1929, and I realize that I have learned a few things about lawmaking, how laws are passed, who takes interest in such things, and, by and large, who does not take an interest in such things.

To me as a lawyer it is significant that it was the medical profession—not outsiders—who saw the importance of and the necessity for revamping the medical laws in Minnesota, who saw the necessity of furnishing the Board a little money with which to work, and probably to make it possible for the Board to get some help. There are seven members of the Board in Minnesota, all of whom are doctors of medicine. They are all appointed by the Governor. The law provides that the Council of the State Medical Society shall make three recommendations for each vacancy, and the Council does so. In the 25 years that this has been the law in Minnesota I can think of only one occasion when the Governor of Minnesota did not respect the wishes of the Minnesota State Medical Society in reference to the Board. I think that speaks well for the Governors, and also for the Medical Society.

The Minnesota State Board of Medical Examiners, in my opinion as a lawyer, is answerable to the Governor of the State, to the people generally, and to the medical profession. By that I mean that under the law it is a separate and independent arm of the State of Minnesota.

The Board has several functions. Some of the functions are different in other states. The prime function of the Minnesota Medical Board is to license physicians. They also license some other persons—midwives, masseurs, and so on—and in 1951 the legislature placed the registration of physical therapists under the Minnesota Medical Board.

The Board has not sought any of those functions. The last group that was placed under the Medical Board—the physical therapists—was placed there at the combined request of the physical therapists' group and the Minnesota State Medical Association in order to cut down on the multiplicity of examining boards.

The next major function of the Board is the disciplining of physicians. There was a time in Minnesota when you could be convicted of murder and manslaughter or any other felony, serve your sentence in the State prison, and come out and practice medicine. That actually occurred, because nothing ever was done about the license.

It doesn't happen any more in Minnesota. The Board, by law, has the power to suspend, revoke, and to return a license. The seven M.D.'s who constitute the Board have the power to conduct a hearing that may lead to suspension or revocation; they also have the power to return a license. The details of it are not spelled out in the law other than to say that the legislature specified the grounds upon which a license might be suspended or revoked. The grounds are similar to those existing in practically all other states, except that in 1937, at the request of organized medicine, an additional ground was added—conduct unbecoming a person licensed to practice medicine or detrimental to the best interests of the public. That was put in the law for a variety of reasons.

When the Board undertakes one of these proceedings, the case is referred to our office. My associate, Mr. Johnson, a lawyer, is with me here this evening. We conduct the investigation of the case. The Board does not try, *de novo*, a case in which a person has been convicted in court. A citation is issued which requires that doctor to show cause why his license should not be revoked. The reason for it is set forth in the citation.

If the charge is based upon a conviction, that conviction is referred to in the citation. If it is a case, for instance, involving habitual indulgence in the use of a derivative of opium, that is set forth. We have tried to encourage the Narcotic Department to turn over those cases to the State Board of Medical Examiners. The old system used to be to have the physician arrested, take him to court and have him sent to Leavenworth or somewhere else. There are those in the medical profession who believe that that is not the best system.

As a result we have gone for eight years in Minnesota without having a physician arrested for violating the Harrison Narcotic Act. That does not mean that Minnesota doctors have not violated that Act; they have, but they have been brought before the State Board of Medical Examiners promptly, the Federal Bureau of Narcotics is notified and they have their agents present. Testimony is taken before the Board, under oath. The Board employs a court reporter. We

usually borrow a court reporter from one of our district judges, and have a transcript made of the proceedings before the Board. The Board then votes, and either votes for acquittal or finds the doctor guilty. If they find him guilty they vote a suspension for whatever length of time the Board believes is right and proper. Obviously, that depends upon the nature of the charge; or, a revocation is voted.

The order of the Board is appealable to the district court and to the Supreme Court of Minnesota, and such appeals have been taken.

I hope that gives you some idea of how the Board functions in Minnesota. I know it is not done that way in Iowa, and it isn't done that way in some other states.

How is this financed? Again I say as an outsider that it was to the credit of the medical profession that they did not ask the taxpayers to finance it, although a good case could be put up for supporting the Board through an appropriation from the legislature. Any of you who have had legislative experience know the difficulty of going to the legislature and getting money.

The doctors themselves suggested that they have an annual registration fee. The years of 1928 and 1929 were the first two years that doctors had to register. They paid \$5 to the Medical Board each of those two years. At that time Minnesota had about 3,000 physicians. So, you see, at the end of two years the Board had a fund of \$30,000 to start with, and that must have been like manna from heaven, because one of the arguments for passing the registration fee was that they hadn't paid the Secretary of the Medical Board, Dr. McDavitt, for thirteen months, and he received only \$150 a month. So, you see, they owed him \$1,950. That was paid after poor Dr. McDavitt's death.

The law provided that the registration fee could be used to enforce the law. It was not used just to discipline doctors. We have had good Attorneys General, but they have a limited staff and have to take care of all the business of the State of Minnesota, all the State commissions and boards, and they have neither the time nor the staff to assign a lawyer to run around the State investigating complaints. Obviously, it was quite agreeable to the Attorney General that the Medical Board employ someone.

The Medical Board could have employed a non-lawyer, but it so happens it didn't. When I started the bulk of this money was used to prosecute quacks. We had quacks running up and down our State selling people almost anything. People represented themselves as doctors who had never seen the inside of a medical school. They guaranteed cures for cancer and every other ailment. I could stand here for hours and tell you about those cases.

We had people in our State who had been there for twenty years, who were listed in the phone book as physicians and surgeons. They had never attended a medical school, but nobody ever had done anything about them.

We also had our friends the cultists, the osteopaths and the chiropractors, who wanted to practice medicine and who were not permitted to do so under the laws of the State. Some of them fell by the wayside, and some of them were prosecuted. However, the medical profession and the Medical Board didn't whitewash the doctors—they didn't go on a witch-hunt—and we didn't always please some of the people who made complaints.

I can remember one time when I was told by the supervisor of the Federal Bureau of Narcotics that a doctor who violated the Harrison Act should not only be put in prison but should also have his license revoked. I think that prison would be a poor place for a doctor in the first place, and it ought to be possible to get him to abide by the Harrison Act without having to put him there. If you have to put him in prison in order to get him to abide by the law, there must be serious question as to whether or not he should practice medicine.

That is the philosophy in the State of Minnesota, and I think we get along pretty well. As a matter of fact, we have had supervisors since then who have told us that they get the finest cooperation, and they have no complaint to make, and not even the slightest intimation that a narcotic case is whitewashed.

Things went along fairly smoothly, except that now and then somebody's toes were stepped on and somebody would run to the legislature and they were either going to abolish the Board or take away its powers. Occasionally we were threatened with extinction by people representing quacks and cults, but so far we have done fairly well.

Then, there was a feeling manifested in Minnesota that something ought to be done about the so-called displaced physician. I don't want to get into a discussion or argument about that matter. There are many sides to it. The real problem, I believe, is one that can be solved. It is a problem that can be handled.

As a lawyer for the Board, I have never concerned myself directly with licensure. I have always taken the position as a lawyer that if the Medical Board needs my help or advice it will send for it, and until it does I think I know my place, and I try to keep it.

Shortly before World War II the problem of licensing doctors, particularly those from Europe arose. Not until that time was I asked for very much advice about it. The Board made its own rules and regulations, and they got along pretty well. At that time there was an indication that perhaps a determined effort was being made to see that certain people were excluded from licensure in the State of Minnesota. That charge was made in the legislature and in the press.

I undertook for the first time to see who really got licenses in Minnesota, and what kind of rules the Board really had adopted. The Board was operating under a rule of full citizenship except for Canadians. Our laws read about the same as the Iowa law: The applicant must come from a school that is approved by the Board. None of the Boards has the money or the time—and our Board gets the large payment that the Iowa Board gets, namely, \$10 a day) to investigate three or four schools, let alone 77 or 78 Class A schools in this country and Canada. I don't know what they could have done about the foreign schools.

I went through the records of our Board when it became necessary and I found that an occasional physician was licensed from Germany, France, England, Scotland, Italy, Holland, Belgium, Sweden, Norway, down through the years. That rather indicated to me that the medical trust was not functioning to the degree some people thought.

Then I asked the Board, "How do you check them?" remembering the check-up I got when I wanted to take the Bar examination after being born and raised in Minnesota. I wondered how they checked the

schools in Europe. I found out that not even that august body, the American Medical Association, for which I have a lot of respect, with all the power some people attribute to it, and with the money it is supposed to have, had checked those foreign schools, either. I didn't know that until then.

It was generally felt that some of the schools were good schools, and their graduates were accepted. I asked the Board how it checked these people, and the members said that if they wanted to find out whether a man had graduated in Germany, they wrote to the American consul, and he would get the information for them.

Then they learned that if you were unfortunate enough to belong to a certain religious faith along about the time Hitler was doing pretty well, the Board never got an answer. The American consul would write back and say the request had been received, but the Board didn't get any information. Things got worse rather than better. The Board found that it wasn't too successful about getting information, so it decided to see what happened if an American went to those European schools.

Long before I was ever on the scene, our legislature wrote a provision in the Minnesota Medical Act saying that our Board could not reciprocate with another state (they did not say anything about another country) that put an impediment in the way of a graduate of the Medical School of the University of Minnesota. In other words, reciprocity was supposed to be just what it said—a two-way street.

We found out that an American citizen from Minnesota could not possibly get a license in France under any circumstances. First he had to surrender his citizenship. We found out quite a few things after we made it our business to look into this problem. Our Board came to the conclusion that it was not going to license anybody from Europe until the war was over and it could see where it was going. That is what the Board did.

Some of you gentlemen who have taken an interest in this matter know that there were quite a number of these foreign physicians in this country prior to December 1941. There were several thousand of these doctors from Europe in this country. Committees were appointed to help them and to try to evaluate their credentials, something about their background, who they were, whether or not they were criminals, whether or not they were drug addicts, etc. Why? To protect the medical profession? I wouldn't think so. I can't imagine that the medical profession in Iowa or Minnesota or any other state needs that kind of protection. It was to protect the person he is going to take care of, if and when he gets a license.

We found out a lot of interesting things. We found some with credentials and others without credentials. There have been instances of forged credentials in this country between states. I know it is nothing new for you to be told that there are people, just like in our State, who would list themselves as physicians and surgeons and practice unmolested for twenty years until the medical profession did something about it. It is pretty hard to believe that that is confined to the United States.

As a result of the Minnesota Board's cutting off all the schools this agitation grew and grew and grew. It is pretty hard for me to believe that someone who graduates from a medical school in France or Norway

is a displaced person. I don't believe that a man who graduates from a medical school in England is a displaced person. You can see how thick I am, but to me they are not displaced persons in any sense of the word.

Our Board knew that in fairness and in decency something ought to be done about the situation. We have all lived long enough to know that in this world there are people (and this is not a barb in anybody's direction) who know more about how to handle your business, your affairs, your profession, than you do yourselves. You have witnessed that in Washington; you have witnessed it undoubtedly in your legislature. We have at home, and I will say that we get along pretty well at home with our legislature.

I will give you just one sample of it: An attempt was made to pass the same law in Minnesota that you want to have in Iowa, that no state agency can adopt any rules without the approval of the Attorney General. The Minnesota State Medical Association went before the legislature and opposed that law, and they opposed it because of the problem connected with displaced physicians. They told the legislature frankly and honestly what the problem was and is, and the legislature not only exempted the Medical Board from that law, but exempted all of the professional examining boards in the State in the same exemption.

In so doing, the legislature had a chance in both the Senate and the House to hear about the displaced persons problem. As a matter of fact, at the same time a bill was pending in the legislature to take all of the power concerning the licensing of physicians away from the Medical Board. We asked members of the legislature what, in their opinion, was the best way to handle the situation. Did they want us to go before the legislature with a bill for temporary licenses? Did they want us to let the bars down completely?

At that time, as I remember the figures, there were in the neighborhood of 8,000 or 9,000 European physicians in the country—not those who came after the war; many of these came before December of 1941. The members of our legislature said no. More than one member of our legislature told me that he would not even support the bill if it had the endorsement of the Medical Society.

One of the flaws and one difficulty about temporary licensure is simply this: It is pretty hard to argue with a man afterwards that if he was good enough for a temporary license, he isn't good enough for a permanent license. Our legislature said they didn't want any part of it.

Consequently, after a meeting with the Governor, a meeting with key members of the legislature, after a discussion of the problem with the Attorney General's office, the Medical Board sat down by itself and drafted a rule that goes something like this:

If a person wants to come to the State of Minnesota and practice medicine, and if he is not from a Class A medical school in this country or Canada, he has to bring his credentials to the Board. He has to put himself under oath. He is questioned. His credentials and everything in his possession that have to do with the practice of medicine are marked as exhibits and offered in evidence. Documents that should go back to him, are photostated and he is given back the original document.

Why is all of this ritual necessary? So that after-

wards one or more of these individuals, who obtain a license by fraud or misrepresentation, can give us no difficulty when cancelling that license.

In addition, the Board requires the applicant to file a declaration of his intention to become a citizen of this country.

As far as I know, we have had no trouble with this requirement; as a matter of fact, the Board was praised in the press, in the legislature and in organized medicine for adopting the rule.

As I have told you, we have no provision in our law that specifically empowers the Board to adopt any such rule, but our Board adopted it for several reasons. It is my opinion it is going to stay on the books of the Board until somebody knocks it off in court.

The legislature and the Supreme Court in Minnesota have stated that you cannot practice law in Minnesota unless you are an American citizen. The legislature has written a requirement of full citizenship into the dental law. The legislature has done likewise in the pharmacy law. It was not intended to be another hurdle for a displaced person. Citizenship in this country is either something that means something, that speaks for something and that represents something, or it doesn't mean anything. The Medical Board isn't spending its time on them unless these people really and sincerely intend to become citizens.

There was a feeling at home that full citizenship was being too severe with them. Well, I suppose one can argue that. You can argue the other side of it too, if you want to. There are judges who have written opinions on it and who have held that citizenship is a fair and reasonable requirement. The applicants not only have to bring their declaration of intention to become a citizen, but they have to agree under oath that they will complete full citizenship within two years from the time they are legally eligible to complete it.

There are people at home who think that is fair and reasonable. I haven't read one line in any paper in Minnesota saying that that is an unfair requirement. I am convinced that if anybody gets it knocked out, it won't be difficult to get the legislature to write it into the law, because, as I have stated, they have written it into three laws already.

What has happened to this program? One of the other cardinal requirements in Minnesota is that the applicant must spend twelve months in an approved hospital in Minnesota,—not in New York but in Minnesota. Why is that? We have heard some criticism of it, chiefly by the applicants but not by the religious groups who sponsor these applicants, such as the Lutheran Church, the Catholic Church, etc. That requirement is written in so that in Minnesota there is an opportunity for the Board to talk with someone who has a chance to evaluate at first-hand their work.

Here is an example of what happens: One of these applicants went into a hospital in Duluth approved for intern and residency training. At the end of his period of twelve months the Board made inquiry, as it does from time to time during the twelve months. At the end of the time this applicant had not been able to convince either the hospital management or the staff that he was a well trained doctor. Don't you think somebody in the State of Minnesota ought to find that out before he is given a license?

One of our requirements is a simple one, we think, and it is a tremendous hurdle for some people and that is that they have to prove to the Board that they can read, write and speak English. You wouldn't think it would be unfair to require that, would you? There is quite a bit of fussing about it. We get applicants who haven't the slightest idea what the doctors on the Board are saying to them. They get some tutoring in English, but, as one of the doctors on the Board said, they are deficient in what he chose to call "medical English." Shouldn't the Board protect the three million people in the State of Minnesota against that? Isn't that what that rule is for? Can you imagine me trying to practice law or medicine in Lithuania or Latvia or Germany, although half of my ancestors came from Germany? Wouldn't I be expected to know something about the German language? If course I would.

That is why I say, when you boil it all down, it isn't such a problem. You have to be fair about it, of course, but you have to be firm about it, too.

We were told that Minnesota needed these persons. Maybe we do. We certainly need doctors in some communities, no doubt about it. Well, we have licensed eighteen displaced physicians who have gone through the ritual. Just one out of the eighteen is in a rural community.

You can draw your own observations from that. We had one physician apply from Jamestown, North Dakota. Our Board asked him why he didn't want to stay in Jamestown. He said, "Jamestown? That is no place to live! That is no place to raise one's children!" I am not an authority on Jamestown, but one Board member said it is one of the best towns in North Dakota. True, it has a population of only 10,000 or 12,000, but at least you don't have Hitler or Joe Stalin running around after you with a bayonet! He wanted to flee from Jamestown and come to Minnesota. He didn't make a very good impression on the Medical Board, and they didn't give him the green light for spending twelve months in a Minnesota hospital.

I checked to see what is happening to their sworn promise that they will complete their citizenship. Each one who has been eligible to acquire citizenship has done so. Only one has his citizenship pending. That makes me believe that the doctors on the Board at home have done a pretty fair job of trying to pick out the worthy applicants and help them along. I think it also speaks well for the applicants.

Somebody said, "What are you going to do if one of these fellows double-crosses you and says, 'I don't want to become an American citizen?'" Well, like everything else in this program, we have made up our mind that we are going to cross that bridge if and when we come to it.

In conclusion I want to say this: We don't have all of the answers up in Minnesota. I want to tell you with all the sincerity at my command that if the State Board of Medical Examiners and the Medical Society at home can help you or your Board to iron out this problem, you won't have to go up to Minnesota—just tell us and we will come down here. Thank you.

The Speaker: Thank you, Mr. Brist.

Dr. Woods: Mr. Speaker, I have no resolutions or proposals to make. I wish to reiterate that we are fifty years behind the times in Iowa.

The Speaker: Is there more discussion relative to this matter of licensure? Does anyone have a resolution to present?

Dr. C. F. Watts: Mr. Speaker and members of the House of Delegates, I have enjoyed Mr. Brist's talk. I would like to quote just one paragraph from the April issue of *Medical Economics*, concerning Iowa and our practice in Iowa:

"In spite of the heavy population increase, there are fewer doctors in the State today than in 1940. The result is that each of Iowa's 1,343 adequate family doctors must take care of 955 citizens, almost 200 more than the national average. Some 309 towns have no M.D.s at all, and there is another problem in addition to the shrinking number of physicians, that doctors themselves are getting superannuated; 29 per cent are over 60 years of age."

Dr. Woods has made the statement that Iowa is fifty years behind the times. In regard to the figures he said we are up-to-date, but in regard to the care of our people we are fifty years behind the time. We all have heard of diagnosis. This is a resolution that I present in a spirit of cooperation:

"Whereas, a recent ruling of the Attorney General has interpreted the present law so as to materially limit the scope of the discretion which has heretofore been exercised by the Iowa State Board of Medical Examiners, and

"Whereas, present conditions indicate that the present laws relating to admission to practice medicine in the State of Iowa need to be re-examined, particularly with reference to the admission to practice by foreign physicians and surgeons; now, therefore, be it

"RESOLVED: By the House of Delegates of the Iowa State Medical Society assembled in 1952 session, that a committee of five be appointed from its body, in collaboration with the attorney for and Legislative Committee of the Iowa State Medical Society, to investigate the present laws applicable to the matter of said admission of said foreign physicians and surgeons and to recommend to the 55th General Assembly of Iowa, for passage, such amendments to the existing law as in the opinion of said committee would be to the best interests of the public."

The Speaker: Thank you Dr. Watts. *That resolution will be referred to the Reference Committee on Legislation.*

Is there further discussion relative to this matter?

Dr. Wolfe: I would be interested in knowing what the present status is. Our Board of Examiners has resigned. Can anyone take an examination in the State of Iowa now before we have a new Board?

The Speaker: The Board is in effect until the first of July.

Dr. Wolfe: What happens after July 2?

The Speaker: Dr. Woods, would you be in a position to answer that?

Dr. Woods: My answer is that on July 2 it is in the laps of the Gods.

The Speaker: This is a very important and pertinent problem, so when the Reference Committee on Legislation meets you probably will have some suggested solutions.

Dr. Farnsworth: I think I can probably answer that by saying that unfortunately Dr. Woods feels that nine years on the Board is enough, and he is retiring. We other two expect to continue on if the

Governor accepts a reconsideration by the legislature, and we will try to fight the thing out as best we can for the benefit of the medical profession.

We have no bone to pick; we have no gripe against the displaced physician, but we are interested in seeing that the public is protected.

If the Governor sees fit to reconsider the matter, we expect to continue on. The June examinations will be taken care of. The main purpose of our action of a week ago last Thursday was to bring this thing out in the open. It has been going along; and while the medical profession has patted us on the back or given us lip service, we have to have a little bit more than that.

The thing I want to emphasize and to leave with you is that our feeling is not against the displaced physician; we are only asking him to fulfill the same qualifications and requirements and education and training that we ask of our own boys in the State of Iowa at the University.

The Speaker: Thank you, Dr. Farnsworth. Any further discussion of this matter?

Dr. Wolfe: I think it is in order that we pass a resolution approving the action of the Board of Medical Examiners. [I think they have done a fine job, and I would like to have a copy of the fine address we have heard by the attorney from Minnesota sent to the editorial board of the *Des Moines Register*.]

Voice: I will second it.

The Speaker: It is moved and seconded that the resolution relative to the work of the State Examiners be approved.

[*The motion was put to a vote and was carried unanimously.*]

The Speaker: Is there any other new business to be brought up at this time?

Dr. E. M. Kersten: I will make my remarks very brief because the hour is late. There is one problem I would like to bring before the House, and that is the matter of the encroachment of hospitals on the practice of medicine. I refer particularly to the departments of radiology, anesthesia and pathology. This matter has been kicked around a good deal by the House of Delegates and the Board of Trustees of the American Medical Association, and they haven't been able to solve it to the present time. This has not made much of a furor in our own state, but there are some states, especially in the southeast, that have had quite a bit of trouble with it, and it has come to the place in a couple of states where the tail is wagging the dog. In other words, the hospitals are telling the doctors what they can do and what they cannot do.

At the last meeting of the House of Delegates of the AMA they discussed this problem again, and I shall read a short part of the remarks concerning this: "One of the factors that has aggravated physician-hospital relationship is the inclusion of medical services in the contracts of voluntary hospital service plans. The medical profession is fostering voluntary health insurance, and we believe that nothing should be done to disturb this very important and essential program.

"However, the AMA has reaffirmed many times to its then Bureau of Medical Economics, its judicial council and House of Delegates, the principle that hospital service plans should exclude all medical services and the contract provisions of such plans should

be limited exclusively to hospital services. At the same time, so that there would be no misunderstanding as to which service should or should not be included, the House of Delegates has stated that if hospital service is limited to include only hospital and room accommodations such as bed, board, operating room, medicine, surgical dressings and general nursing care, the distinction between hospital service and medical service will be clear.

"The past actions of the House of Delegates give every reason to reiterate that radiology, anesthesia and pathology constitute the practice of medicine. In order to initiate a method for remedying this situation, it is recommended that the Blue Shield and Blue Cross be requested to cooperate to the extent of writing all new contracts in such a manner that Blue Shield will cover insurable medical services and Blue Cross will cover insurable hospital services. It is hoped that the professional and hospital authorities and the voluntary prepayment plans will cooperate in furthering these recommendations."

To crystallize our thinking on this, we offer the following resolution:

"Whereas, the practice of medicine is the responsibility of the medical profession, and

"Whereas, governments and corporations cannot practice medicine without violating the law and ultimately lowering the quality of medical care, and

"Whereas, the practice of medicine includes the practice of radiology, pathology and anesthesiology, and

Whereas, Iowa doctors of medicine have created through their State Association, the Iowa State Medical Society, a voluntary Blue Shield insurance plan which provides payments for services rendered Blue Shield plan members by doctors of medicine, and

"Whereas, certain medical services, including those of radiology, pathology and anesthesiology are now covered only in part or not at all by the Blue Shield plan, and

"Whereas, many of these services are now covered by Blue Cross, a voluntary plan to provide payment for hospital services only, and not professional services; now, therefore, be it

"RESOLVED: That the House of Delegates of the Iowa State Medical Society request the Board of Directors of the Iowa Medical Service and Blue Shield to investigate the possibility of extending Blue Shield benefits to include all medical services, including those rendered by radiologists, pathologists and anesthesiologists, thus relieving Blue Cross of responsibility for covering such services; and be it further

"RESOLVED: That the House of Delegates of the Iowa State Medical Society express its appreciation to Blue Cross for covering these services during the early years of Blue Shield."

The Speaker: Thank you, Dr. Kersten. *This resolution will be referred to the Reference Committee on Resolutions and New Business.*

Dr. E. F. Van Epps [Iowa City]: Mr. Speaker and gentlemen, the delegates from Johnson County have been instructed by the Society to present the following two resolutions to the House of Delegates:

"Whereas, it has been conclusively shown by both experimental and long-term studies that addition of fluorides to municipal drinking water supplies in an amount not to exceed a total of 1.2 to 1.5 ppm de-

creases the incidence of dental caries in children by at least one-half, and

"Whereas, the American Medical Association, the American Dental Association, the Iowa Dental Society and the State Department of Health have approved the principle of fluoridation of municipal water supplies in the amounts given above, and

"Whereas, several cities in Iowa have already started fluoridation of their water supply, and

"Whereas, several county medical societies have already given their approval for this procedure; now, therefore, be it

"RESOLVED: That the Iowa State Medical Society go on record as approving the principle of fluoridation of municipal water supplies under the supervision of the Department of Health Engineering of the Iowa State Department of Health."

I move that this resolution be referred to the proper reference committee.

The Speaker: *This will be referred to the Reference Committee on Miscellaneous Business.*

Dr. Van Epps: The second resolution is as follows:

"Whereas, in the book, 'History of Medicine in Iowa in the Last 100 Years,' certain omissions were made in the history of members of the faculty of the medical school of Iowa, and

"Whereas, one of the omissions concerned Dr. W. R. Whiteis of Iowa City, Iowa, who was on the faculty of the medical school for approximately twenty-five years, during which time he was made head of the Department of Obstetrics and Gynecology, and who was largely responsible, more than any other man, for putting this Department on a high level, bringing it to national recognition; now, therefore, be it

"RESOLVED: That the House of Delegates request that appropriate action be taken to correct this omission and to rectify the error."

The Speaker: *This will be referred to the Reference Committee on Miscellaneous Business.*

Is there any other new business to be brought up at this time?

Dr. E. M. Honke [Woodbury]: Woodbury County has the following resolution to present:

"Whereas, doctors of medicine are not covered by social security, and

"Whereas, doctors of medicine in general are not covered by any type of pension plan, and

"Whereas, for several years the Director of the Bureau of Medical Economic Research and the Director of the Bureau of Legal Medicine of the American Medical Association have been cooperating with representatives of other professional organizations in a study of tax deferment for professional persons, and

"Whereas, the Iowa State Medical Society has evinced interest in legislation which would permit tax deferment to the less productive years, and

"Whereas, there are now before the Congress of the United States two bills which would amend the federal internal revenue code so as to enable self-employed professional persons to exclude from current taxable income an amount sufficient to finance a reasonable retirement annuity; therefore, be it

"RESOLVED: That the Iowa State Medical Society in convention assembled instruct its Legislative Committee to study these bills and to add its support to that of the American Medical Association in urging passage by the Congress of the United States."

About two weeks ago there was an article in the JAMA which requested all of the various components

of medicine, both individually and collectively, to contact their representatives in Washington and urge support of this legislation.

The Speaker: Thank you, Dr. Honke; *this will be referred to the Reference Committee on Legislation.*

Dr. Sternagel: At the request of the delegates of the fifth District we are respectfully submitting this resolution:

"Whereas, the oath of medical indigency required before a veteran is submitted for nonservice disability care in veterans' facility hospitals has not been enforced; be it

"RESOLVED: By the Iowa State Medical Society that a resolution be introduced into the House of Delegates of the American Medical Association at its next annual session, which would demand rigid enforcement of the aforesaid oath."

The Speaker: *That will be referred to the Reference Committee on Legislation.* Is there any other new business or resolutions to come before the House at this time? If not, the time has arrived for the election of the Committee on Nominations. As has been the custom in the past, the various districts will meet in the hall in a clockwise fashion. Will all of the districts please caucus and select their member of the Nominating Committee. As soon as that individual has been selected you will please report it to the Executive Secretary, and we will be ready for adjournment.

[Caucus for members of the Nominating Committee.]

The Speaker: The House will stand adjourned until 7:30 a.m. Wednesday morning.

[The meeting adjourned at 9:30 p.m.]

WEDNESDAY MORNING SESSION

April 30, 1952

The meeting reconvened at 7:30 a.m., Dr. Eugene Smith, Speaker of the House, presiding.

The Speaker: Gentlemen, we will reconvene the House of Delegates.

The first order of business on the agenda this morning is the roll call. I would ask you to speak up quickly, because we have to finish our meeting by 9:30 a.m. or else reconvene at 2 p.m. this afternoon, which I am sure most of you would not like to have to do.

Roll call by the secretary showed the following persons present:

DELEGATES

Appanoose—J. C. Donahue
Black Hawk—C. D. Ellyson
Boone—H. C. Scharnweber
Bremer—O. C. Hardwig
Buchanan—R. L. Knipfer
Buena Vista—H. E. Farnsworth
Cass—R. H. Moe
Cerro Gordo—J. E. Houlahan
Cerro Gordo—C. O. Adams
Cherokee—H. D. Seely
Chickasaw—P. E. Gardner
Clay—E. E. Munger
Clinton—R. F. Luse
Dallas-Guthrie—H. W. Smith
Davis—R. Schoonover
Delaware—W. J. Willett

Des Moines—F. G. Ober
Dickinson—T. L. Ward
Dubuque—J. W. Lawrence
Dubuque—D. F. Ward
Fayette—E. S. Kennedy
Floyd—C. C. Magdsick
Fremont—K. Murchison
Greene—L. C. Nelson
Hardin—J. J. Shurts
Henry—J. S. Jackson
Howard—C. A. Field
Humboldt—A. S. Arent
Iowa—C. F. Watts
Jasper—J. W. Billingsley
Jefferson—R. A. McGuire
Johnson—A. C. Wise
Johnson—E. J. Boyd
Johnson—E. F. Van Epps
Johnson—L. H. Jacques
Jones—T. M. Redmond
Keokuk—D. L. Grothaus
Kossuth—L. O. Snook
Lee—L. C. Pumphrey
Linn—C. H. Stark
Linn—F. G. Murray
Linn—J. J. Keith
Lucas—A. L. Yocom
Madison—I. K. Sayre
Marshall—O. D. Wolfe
Marshall—D. D. Harris
Montgomery—Oscar Alden
Muscatine—C. P. Phillips
O'Brien—T. D. Kas
Page—K. J. Gee
Palo Alto—G. H. Keeney
Plymouth—W. L. Downing
Pocahontas—J. B. Thielen
Polk—M. T. Bates
Polk—F. M. Burgeson
Polk—W. D. Abbott
Polk—D. H. Kast
Polk—T. A. Bond
Polk—R. F. Birge
Polk—F. Sternagel
Polk—H. C. Bone
Polk—H. G. Decker
Polk—G. E. Mountain
Polk—T. B. Throckmorton
Pottawattamie—F. N. Weber
Ringgold—E. J. Watson
Sac—W. I. Evans
Scott—W. C. Goenne
Scott—George Braunlich
Scott—J. H. Sunderbruch
Story—J. G. Fellows
Story—J. D. Conner
Tama—C. W. Maplethorpe
Union—J. L. Hoyt
Wapello—C. A. Henry
Wapello—W. C. Wolfe
Warren—L. E. Hooper
Washington—E. D. Miller
Webster—C. J. Baker
Webster—E. M. Kersten
Woodbury—P. L. Bettler
Woodbury—J. W. Bushnell
Woodbury—E. M. Honke
Wright—G. E. Schnug

ALTERNATE DELEGATES

Black Hawk—R. C. Miller
 Clinton—V. W. Petersen
 Polk—M. I. Olsen
 Scott—A. J. Lenzmeier
 Woodbury—C. T. Maxwell

OFFICERS

President—D. C. Conzett
 President-elect—B. T. Whitaker
 Secretary—A. B. Phillips
 Trustee—L. A. Coffin
 Trustee—J. W. Billingsley
 Councilor—C. C. Hall
 Councilor—C. H. Cretzmeyer
 Councilor—M. T. Morton
 Councilor—H. A. Housholder
 Councilor—C. A. Boice

The Speaker: The next order of business is the reading of the minutes of last Sunday's meeting.

[Secretary Phillips read the minutes of the meeting of the House of Delegates of Sunday, April 27, 1952.]

Secretary Phillips [continuing]: Mr. Speaker, I move that the minutes be accepted as read.

[The motion was seconded, put to a vote, and was carried.]

The Speaker: Next is the report of the Nominating Committee.

REPORT OF THE NOMINATING COMMITTEE

Dr. Farnsworth: The Nominating Committee met in Parlor D Monday morning, April 28, with the following persons present: First District, Dr. O. C. Hardwig; Second District, Dr. J. E. Houlahan; Third District, Dr. T. D. Kas; Fourth District, Dr. H. E. Farnsworth; Fifth District, Dr. J. D. Conner; Sixth District, Dr. O. D. Wolfe; Seventh District, Dr. R. H. Flocks; Eighth District, Dr. L. C. Pumphrey; Ninth District, Dr. C. A. Henry; Tenth District, Dr. I. K. Sayre; and Eleventh District, Dr. Kenneth Murchison.

Those present voted that Dr. H. E. Farnsworth should serve as chairman of the committee, with Dr. T. D. Kas as secretary.

Nominations were made for president-elect, with the following names being presented: Dr. R. N. Larimer of Sioux City, Dr. G. C. Albright of Iowa City and Dr. Martin I. Olsen of Des Moines. Other nominations were as follows:

First Vice-President, Dr. E. B. Howell of Ottumwa.
 Second Vice-President, Dr. L. C. Kern of Waverly.
 Trustee, Dr. W. L. Downing of Le Mars.

Delegates to the AMA, Dr. George Braunlich of Davenport and Dr. Donald C. Conzett of Dubuque.

Alternate Delegates, Dr. F. G. Ober of Burlington and Dr. O. D. Wolfe of Marshalltown.

Speaker of the House, Dr. Eugene Smith of Waterloo.

Vice-Speaker, Dr. T. F. Thornton of Waterloo.

Councilor, First District, Dr. C. C. Hall of Maynard;
 Sixth District, Dr. O. D. Wolfe of Marshalltown;
 Eleventh District, Dr. Oscar Alden of Red Oak.

It is the duty of the State Society to submit to the Governor six names for the Board of Medical Examiners. The Nominating Committee has assumed the

responsibility for bringing in the following suggestions:

George H. Scanlon of Iowa City.
 Craig D. Ellyson of Waterloo.
 Richard F. Birge of Des Moines.
 C. H. Stark of Cedar Rapids.
 Harold W. Morgan of Mason City.
 John W. Bushnell of Sioux City.

Respectfully submitted,
 H. E. FARNSWORTH, *Chairman*,
 T. D. KAS, *Secretary*,
 O. C. HARDWIG,
 J. E. HOULAHAN,
 J. D. CONNOR,
 O. D. WOLFE,
 R. H. FLOCKS,
 L. C. PUMPHREY,
 C. A. HENRY,
 I. K. SAYRE,
 KENNETH MURCHISON.

The Speaker: You have heard the report. I would like to have Dr. Ellyson, Dr. Adams and Dr. Conner come forward and act as tellers. Are there any nominations from the floor for President-elect?

[The tellers distributed the ballots, collected and counted them.]

The Speaker: While we are waiting for the tellers' report may I ask if those who have reference committee reports to make will please come to the front of the room.

The President-elect of the Iowa State Medical Society is Dr. R. N. Larimer, of Sioux City. Will Dr. Honke and Dr. Maxwell escort the new President-elect to the platform?

Dr. Honke: Dr. Larimer is downstairs having breakfast. We will bring him in shortly.

The Speaker: Are there any other nominations for other officers of the Iowa State Medical Society?

Secretary Phillips: I move that the By-laws be set aside and the Secretary be instructed to cast the unanimous vote of the House for the remainder of the slate of officers, as selected by the Nominating Committee.

Dr. Clyde A. Boice [Washington]: I second the motion.

[The motion was put to a vote and was carried unanimously.] The Secretary then cast the ballot for the other officers.

Dr. Downing offered his resignation as Councilor and the Nominating Committee withdrew to select a successor.

Dr. Billingsley: As I understand it, the motion just voted upon accepted the nominees for officers and made no mention of the six selectees for the Board of Medical Examiners; is that correct?

The Speaker: Your point is well taken, Doctor; that is true.

Dr. Billingsley: If I am in order at this time, I move that the six selectees—that is, that the committee's suggestions to the Governor for the Board of Medical Examiners be approved.

[The motion was seconded, put to a vote, and carried.]

Dr. Boice: Is it the duty of that Nominating Committee to select a place for 1954? If not, I move we meet in Des Moines in 1954.

[The motion was seconded, put to a vote, and carried.]

[Dr. Larimer was escorted to the platform, and the audience arose and applauded.]

Dr. R. N. Larimer: Gentlemen, I assume I have been elected President-elect.

Only those of you who have been around the State Society for any length of time know that the position of President-elect is a very difficult and hard job. I certainly appreciate that, and I want to assure you that I approach the job with humility and the desire to work hard. I hope the results will be just what you want. Thank you very much.

The Speaker: Thank you, Dr. Larimer.

We will now hear the report of the Reference Committee on Legislation and Public Relations. In the absence of Dr. Caughlan, Chairman, Dr. Stark will make the report.

Dr. C. H. Stark: The Reference Committee examined the report of the Legislative Committee in the Handbook, and approved same.

Mr. Speaker, I move that the House of Delegates approve the report of the Legislative Committee, as reported in the Handbook.

[The motion was duly seconded, put to a vote, and carried unanimously.]

Dr. Stark: The Reference Committee on Legislation considered the resolutions and reports as follows:

The Reference Committee studied the resolution from the Fifth District and changed the word "oath" to "statement" so that the resolution, as amended, reads as follows:

"Whereas, the statement of medical indigency required before a veteran is admitted for non-service connected disability care in the veterans' facility hospitals has not been enforced; now therefore be it

"RESOLVED: By the Iowa State Medical Society that a resolution be introduced into the House of Delegates of the American Medical Association at its next annual session which would demand rigid enforcement of the aforesaid statement."

Mr. Speaker, I move the adoption of this portion of the report.

[The motion was duly seconded, put to a vote, and carried unanimously.]

Dr. Stark: The Reference Committee considered the resolution introduced by Dr. E. M. Honke of Sioux City, pertaining to a pension plan for self-employed professional persons, as it appeared in the Journal of the American Medical Association, April 2, 1952. The resolution reads as follows:

"Whereas, doctors of medicine are not covered by social security, and

"Whereas, doctors of medicine in general are not covered by any type of pension plan, and

"Whereas, for several years the Director of the Bureau of Medical Economic Research and the Director of the Bureau of Legal Medicine of the American Medical Association have been cooperating with representatives of other professional organizations in a study of tax deferment for professional persons, and

"Whereas, the Iowa State Medical Society has evinced interest in legislation which would permit tax deferment to the less productive years, and

"Whereas, there are now before the Congress of the United States two bills, H.R. 4371 and H.R. 4373, which would amend the federal internal revenue code so as to enable self-employed professional persons to exclude from current taxable income amounts sufficient to finance a reasonable retirement annuity; now, therefore, be it

"RESOLVED: That the Iowa State Medical Society

in convention assembled instruct its Legislative Committee to study these bills and to add its support to that of the American Medical Association in urging passage by the Congress of the United States."

Mr. Speaker, I move the adoption of this resolution as read.

[The motion was duly seconded, was put to a vote, and was carried unanimously.]

Dr. Stark: Your Reference Committee studied the resolution presented by Dr. C. F. Watts of Marengo, pertaining to the appointment of a special committee to investigate the present laws applicable to the admission of foreign physicians for licensure. The original resolution, as introduced, provided for the appointment of a committee of five to be appointed from this body. The resolution, as amended by your Reference Committee, provides for the appointment of these five members by the President of the Iowa State Medical Society, and has been amended to read as follows:

"Whereas, a recent ruling of the Attorney General has interpreted the present law so as to materially limit the scope of the discretion which has been heretofore exercised by the Iowa State Board of Medical Examiners, and

"Whereas, present conditions indicate that the present laws relating to the admission to practice medicine in the State of Iowa need to be re-examined, particularly with reference to the admission to practice by foreign physicians and surgeons; now, therefore, be it

"RESOLVED: By the House of Delegates of the Iowa State Medical Society, assembled in 1952 session, that a committee of five be appointed by the President, in collaboration with the attorney for, and Legislative Committee of, the Iowa State Medical Society, to investigate the present laws applicable to the matter of said admission of said foreign physicians and surgeons, and to recommend to the 55th General Assembly of Iowa, for passage, such amendments to the existing law as in the opinion of said committee would be to the best interests of the public."

Mr. Speaker, I move the adoption of this portion of the report.

[The motion was duly seconded, put to a vote and carried unanimously.]

Dr. Stark: Mr. Speaker, I move the adoption of this report in its entirety.

[The motion was duly seconded, put to a vote, and carried unanimously.]

The Speaker: We will hear the report of the Reference Committee on Constitution and By-laws, by Dr. Kersten.

The Reference Committee on Constitution and By-Laws approves the resolution submitted by the combined Committee of Four and the Committee on Medical Education and Hospitals, which suggested changes in the By-Laws in Chapter IX.

Whereas, for the past few years the Committee on Medical Education and Hospitals has had many demands made upon it in regard to the problems of the College of Medicine of the State University of Iowa, and

Whereas, during the past two years a second committee has been named by the House of Delegates to work with the Board of Education in regard to these same problems, and

Whereas, we still have no Dean of the College of Medicine, and

Whereas, there are still many matters concerning

medical education in which we have a vital stake and should work for their solution,

Now, Therefore Be It Resolved, that the personnel of the Committee on Medical Education and Hospitals be increased from three to five members, and

Be It Further Resolved that the By-Laws be amended so that Chapter IX, Section 1, line 11, final figure (3) shall be changed to read (5), and Section 11 of the same chapter shall be changed to read "The Committee on Medical Education and Hospitals shall consist of five members who shall serve in this state in a similar capacity as the Council on Medical Education and Hospitals does for the American Medical Association and shall have referred to it all questions pertaining to hospitals and medical education," and

Be It Further Resolved that the approval of this House of Delegates is hereby asked for presenting this amendment from the floor.

Dr. Kersten: Mr. Speaker, I move that this report be accepted as read.

[The motion was duly seconded, put to a vote, and carried unanimously.]

The Speaker: To make legal the change in the By-Laws, we will now have to vote on the change. All those in favor, signify by saying "aye"; opposed, "no." The motion is carried unanimously and the change is now legal.

We will now hear the report of the Reference Committee on Resolutions and New Business, by Dr. Downing.

Your Reference Committee on Resolutions and New Business met to consider the resolution presented by Dr. Kersten.

Whereas, the practice of medicine is the responsibility of the medical profession, and

Whereas, governments and corporations cannot practice medicine without violating the law and ultimately lowering the quality of medical care, and

Whereas, the practice of medicine includes the practice of radiology, pathology and anesthesiology, and

Whereas, Iowa Doctors of Medicine have created through their State Association, the Iowa State Medical Society, a voluntary Blue Shield Insurance Plan which provides payments for services rendered Blue Shield Plan Members by Doctors of Medicine, and

Whereas, certain medical services, including those of radiology, pathology and anesthesiology are now covered only in part or not at all by the Blue Shield, and

Whereas, many of these services are now covered by Blue Cross, a voluntary plan to provide payment for hospital services only and not professional services, now therefore

BE IT RESOLVED, That the House of Delegates of the Iowa State Medical Society requests the Board of Directors of Iowa Medical Service (Blue Shield) to investigate the possibility of extending Blue Shield benefits to include all medical services including those rendered by radiologists, pathologists and anesthesiologists, thus relieving Blue Cross of responsibility for covering such services, and

BE IT FURTHER RESOLVED, That the House of Delegates of the Iowa State Medical Society express its appreciation to Blue Cross for covering these services during the early formative years of Blue Shield.

We recommend that the resolution be approved and activated.

Dr. Downing: Mr. Speaker, I move the adoption of this report.

Dr. Kersten: I second the motion.

[The motion was put to a vote and was carried unanimously.]

The Speaker: We will hear the report of the Reference Committee on General Practitioner's Award, by Dr. Ward.

Dr. Ward: The Committee appointed to select the outstanding general practitioner of the year met in open session at the time and place posted. The names submitted for their study and recommendation were noted. Various members of the Society made their appearance before the Committee and added personal touches concerning the candidates. This was most gratifying to the Committee. The sponsoring societies are to be congratulated on their efforts in behalf of their candidates. Verbal and formal testimonials were heard and read. Because of the outstanding work as outlined in the materials available, the selection was not easy. However, a decision was reached and it was decided by the Committee that all candidates had met the basic qualifications. It then became necessary to go beyond these qualifications.

In addition to these standards, one candidate not only met these but surpassed all others by his long record of activity and diligence in the performance of duties assigned to him at various times in his medical career in the interest of organized medicine. This physician not only practices his profession with honor, dignity, and service, but into this he also found time to work for and uphold the aims of the Iowa State Medical Society. He also has contributed many works to the literary field. His contribution to the history of medicine in Iowa is most outstanding. It is because of these additional activities that your Committee with unanimity has selected and presents with great pride to the Society for its approval the outstanding general practitioner of the year 1952 to be Dr. Clyde A. Henry of Farson, Iowa.

Respectfully submitted,

D. F. WARD, Chairman

W. J. WILLET

P. L. BETTLER

Dr. Ward: Mr. Speaker, I move the adoption of this report.

[The motion was duly seconded, put to a vote, and carried unanimously.]

The Speaker: Dr. Woods will you escort Dr. Henry to the rostrum, please?

Dr. C. A. Henry [Farson]: I am very grateful for the honor conferred upon me, and I wish to thank Dr. Ward and the Iowa State Medical Society, its Auxiliary, and all of our friends everywhere. The only thing that we fellows have tried to do was to dig in on the firing line, and we have been doing that all the way along, defending our pill boxes.

The Speaker: The next report is that of the Reference Committee on Miscellaneous Business, by Dr. Fred Sternagel.

Dr. Sternagel: The Reference Committee approved the resolution submitted by the Johnson County Medical Society concerning the fluoridation of municipal drinking water, and moves its adoption.

[The motion was duly seconded, put to a vote, and carried unanimously.]

Dr. Sternagel: Your Reference Committee approved a second resolution from the Johnson County Medical Society, concerning the book, "History of Medicine in Iowa in the Last 100 Years." Mr. Speaker, I move the adoption of this resolution.

[The motion was duly seconded, put to a vote, and carried unanimously.]

The Speaker: I certainly want to thank the chairmen and members of our reference committees for the time and sacrifice they have made in working out all of these problems and doing it so well.

Dr. Farnsworth, are you ready with the nomination for a Councilor for the Fourth District?

Dr. Farnsworth: The Nominating Committee wishes to present the name of Dr. Paul Brecher, of Storm Lake, to fill the term of Dr. Downing.

The Speaker: Are there any other nominations for Councilor from the Fourth District? If not, those in favor of Dr. Brecher say "aye"; opposed, "no." Dr. Brecher is elected as Councilor for the Fourth District.

Is there any unfinished business to come before the House? Is there any new business? If not, we will ask President Whitaker to announce his committee appointments.

[Dr. Whitaker read his committee appointments.]

Dr. Whitaker [continuing]: Mr. Speaker, I move the approval of these committees as read.

[The motion was seconded, put to a vote and carried.]

The Speaker: Under new business Dr. Conzett will read a communication.

President Conzett: Mr. Speaker, this just came by special delivery:

"RESOLVED, That this conference urge the holding of a statewide School and Physicians Conference, sponsored by the Iowa State Medical Society, the State Dental Society, the State Department of Public Instruction, and the State Department of Health.

"Conferences of this type have been held in neighboring states with outstanding success. Such a conference brings together the people in health and education, for the consideration of one of the most valuable subjects taught in our schools." This is submitted by W. F. Johnson, Superintendent of Schools, Spencer, Iowa, Chairman of Health and Safety Section meeting in connection with Lay Leadership Conference on Education, State University of Iowa."

Mr. Speaker, I move that this matter of new business be referred to the new President, with power to act.

[The motion was duly seconded, put to a vote, and carried unanimously.]

The Speaker: Is there further new business to come before the House at this time? If not, before we adjourn I would like to ask for a rising vote of thanks for the following concerns who contributed a great deal to the success of this meeting: Polk County Medical Society, the Physicians and Hospitals Supply Company and the House of Vision for their hospitality hours; the Chamber of Commerce, for its most vital assistance in making our stay here in Des Moines enjoyable, and the Woman's Auxiliary, for its social evening and entertainment on Monday night. May we have a rising vote of thanks at this time?

[The audience arose and applauded.]

The Speaker: We also wish to thank the Hotel Fort Des Moines for its fine cooperation in making us comfortable.

Between now and the next meeting of the House of Delegates I hope it may be possible for me to learn each delegate's name. I would appreciate it very much if you will help me to do so before the next twelve months have rolled around.

President Conzett: Before we adjourn, gentlemen, I would like to thank you all for your cooperation, and ask that because the formal installation of our new President will occur at eleven o'clock this morning following the last speaker at the scientific session, and because frequently we have a somewhat slim crowd, we would appreciate it greatly if as many members of the House as possible will be present for the installation of our new President.

Thank you.

The Speaker: Thank you, Dr. Conzett. If there is nothing else to come before the House of Delegates at this time, we will stand adjourned.

[The meeting adjourned sine die at 8:30 a.m.]

WORLD MEDICAL ASSOCIATION

(Continued from page 313)

Five General Assemblies have been held, in Paris, Geneva, London, New York and Stockholm. The next one will be held in Athens, October 12-16, 1952.

Activities of the Association to date have included a study of medical manpower, showing the number of doctors in the various countries in relation to the population, and the number of general practitioners and specialists; a survey of medical education in some 26 countries; a survey of postgraduate medical education in 28 countries; a study of cult practice in various countries; a study of medical advertising; a very full survey in social security as it affects medical practice; publication of a quarterly Bulletin published in three languages; and at the present time a study on the number and distribution of hospitals and the availability of certain pharmaceuticals and biologicals.

The Association has called on all countries to protect freedom in medical research and has condemned euthanasia. In 1948 the Association adopted a modification of the Hippocratic Oath known as the Declaration of Geneva. This was the result of a study of German War Crimes.

A natural sequence to the Declaration was the adoption of an International Code of Medical Ethics, something which heretofore never existed. Both of these have been approved by the American Medical Association and have been carried in full in previous issues of our JOURNAL.

Dr. Louis H. Bauer, president of the American Medical Association, is Secretary-General of the World Medical Association and has been since shortly after its formation. Forty-three nations are represented. All Iowa doctors are invited to membership. For this you will receive your certificate of membership, the quarterly bulletin and all published studies, letters of introduction to foreign medical associations and their members, a share in defending the interests of practicing physicians before international groups, and the satisfaction of sharing the advantages of our medical progress with other lands. Yearly dues are \$10 and may be sent to your State Society office for forwarding.

FIFTY YEAR CLUB MEMBERS

June 15, 1952

Adams, Ernest M.....Central City
 Agnew, Fred F.....Independence
 Aldrich, J. Frank.....Clarinda
 Barber, Oliver S.....Chicago, Ill.
 Barton, Edwin G.....Ottumwa
 Beatty, Edward D.....Arnolds Park
 Bell, Edward P.....Pleasantville
 Bierring, Walter L.....Des Moines
 Bigelow, Charles T.....LaGrange, Ill.
 Binford, William S.....Davenport
 Birney, Cleanthus E.....Estherville
 Boice, Clyde A.....Washington
 Bowen, Frederick S.....Woodburn
 Boyer, Howard C.....Council Bluffs
 Bullock, William E.....Lake Park
 Cantwell, John D.....Davenport
 Carson, Andros.....Des Moines
 Carver, William F.....Fort Dodge
 Chase, William B., Sr.....Des Moines
 Chittum, John H.....Wapello
 Chittum, Josiah M.....North Liberty
 Clasen, Henry W.....Cedar Falls
 Cole, Elmer J.....Woodbine
 Cretzmeyer, Charles H.....Algona
 Crew, Arthur E.....Marion
 Dean, Frank W.....Council Bluffs
 Dean, William F.....Osceola
 Dennison, John C.....Bellevue
 Donohoe, Anthony P.....Davenport
 Dulin, Tarana J.....Iowa City
 Ely, Francis A.....Des Moines
 Farnum, Earl P.....Sibley
 Field, George A.....Des Moines
 Foley, Fred C.....Newell
 Fowler, Charles C.....Lovilia
 Franklin, George W.....Jefferson
 Gardner, John R.....Lisbon
 Gardner, Paul E.....New Hampton
 Gearhart, George W.....Springville
 Giles, George C.....Oakland
 Gillmor, Benjamin F.....Red Oak
 Givens, H. Frank.....West Bend
 Gray, Henry A.....Keokuk
 Griffin, Clark C.....Vinton
 Griffin, John M.....Des Moines
 Gutch, Thomas E.....Albia
 Harkness, Gordon F.....Davenport
 Harrington, Burton.....Cedar Rapids
 Harris, Clinton E.....Grinnell
 Heady, Conda C. C.....Bloomfield
 Heald, Clarence L.....Sigourney
 Heathman, Frank E.....Pocahontas
 Henry, Clyde A.....Farson
 Hight, William B.....Des Moines
 Hills, Henry M.....Lamoni
 Hull, Henry C.....Washington
 James, Peter E.....Elk Horn
 Jastram, Alfred H.....Remsen
 Jenkins, George A.....Albia
 Johnson, Albert P.....Sigourney
 Johnson, George M.....Oberlin, Ohio
 Jones, Louis H.....Wall Lake
 Kauffman, William A.....Marshalltown
 Kerlin, Jared D.....Des Moines
 Kern, Lester C.....Waverly
 King, David H.....Batavia
 Kisor, Frank H.....Mechanicsville
 Kennedy, Elizabeth Smith.....Oelwein
 Laugel, Ambrose M.....Breda
 Lease, Nimrod J.....Crawfordsville
 Lincoln, Simon E.....Des Moines
 Lundvick, Arthur W.....Gowrie

McBurney, George F.....Belmond
 McDowall, Gilbert T.....Gladbrook
 McDowell, William O.....Grundy Center
 McLaughlin, Charles W.....Washington
 Mantz, Russell L.....Cedar Rapids
 Marble, Pearl L.....Liscomb
 Mason, Stella M.....Mason City
 Meyers, Frank W.....Dubuque
 Mills, Frank W.....Ottumwa
 Minassian, Harootune A.....Des Moines
 Morris, Zenella E. N.....Stockport
 Morrison, Wesley J.....Cedar Rapids
 Morse, Charles H.....Eagle Grove
 Mott, William H.....Farmington
 Murchison, Kenneth.....Sidney
 Murray, Frederick G.....Cedar Rapids
 Neal, Emma J.....Cedar Rapids
 Nelson, Harry E.....Dayton
 Niblock, George F.....Denver, Colo.
 Nicoll, David T.....Mitchellville
 Norton, Alva C.....Rockwell City
 Oggel, Herman D.....Maurice
 Pace, Arthur A.....Toledo
 Pagelsen, Otto H.....Des Moines
 Patterson, John N.....Burlington
 Peck, Raymond E.....Davenport
 Phillips, Albin B.....Clear Lake
 Phillips, I. Hildredth.....Missouri Valley
 Quire, Frank E.....Lynnville
 Rambo, David T.....Ottumwa
 Raw, Elmer J.....Pierson
 Richardson, Leon F.....Collins
 Robinson, Robert E.....Waverly
 Rogers, Claude B.....Earlville
 Roost, Frederick H.....Sioux City
 Ruml, Wentzle.....Cedar Rapids
 Sams, Joseph H.....Clarion
 Sanders, William E.....Pasadena, Calif.
 Sawyer, Prince E.....Sioux City
 Scott, Sophie H.....Des Moines
 Sellards, Joseph W.....Clarinda
 Shelton, Charles D.....Bloomfield
 Sinning, Augustus.....Iowa City
 Smith, Channing G.....Granger
 Smith, Franklin C.....Mount Ayr
 Smith, John E.....Clarence
 Spain, Robert T.....Conrad
 Steindler, Arthur.....Iowa City
 Sternberg, Walter A.....Mount Pleasant
 Stinson, Alice C.....Estherville
 Stuart, Percy E.....Nashua
 Throckmorton, R. Fred.....Des Moines
 Tinley, Mary L.....Council Bluffs
 Tinley, Mathew A.....Council Bluffs
 Van Epps, Clarence E.....Iowa City
 Walker, Harry L.....Cedar Rapids
 Walliker, Wilbur M.....Clinton
 Walsh, Thomas N.....Hawkeye
 Walston, Edwin B.....Des Moines
 Wanamaker, Ambrose E.....Hamburg
 Weir, Edward C.....Council Bluffs
 Wells, Fred L.....Des Moines
 Westenberger, Joseph C.....St. Ansgar
 Whitehill, Nelson M.....Boone
 Whitley, Ralph L.....Osage
 Whitmire, William L.....Sumner
 Wilson, Fred C.....Colesburg
 Woodbridge, James W.....Kirkwood, Mo.
 Wray, Clarence M.....Iowa Falls
 Wright, Walter N.....Rose Hill
 Young, Ernest R.....Dubuque
 Young, Henry C.....Bloomfield

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1952-1953

President Ben T. Whitaker, Boone
President-Elect..... Robert N. Larimer, Sioux City
First Vice President..... Elias B. Howell, Ottumwa
Second Vice President..... Lester C. Kern, Waverly
Secretary..... Allan B. Phillips, Des Moines
Treasurer..... N. Boyd Anderson, Des Moines

COUNCILORS

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|--|------|
| First District—Cluley C. Hall, Maynard..... | 1955 |
| Second District—Charles H. Cretzmeyer, Algona..... | 1953 |
| Third District—Matthew T. Morton, Estherville..... | 1954 |
| Fourth District—Paul W. Brecher, Storm Lake..... | 1955 |
| Fifth District—Ernest M. Kersten, Fort Dodge..... | 1954 |
| Sixth District—Otis D. Wolfe, Marshalltown..... | 1955 |
| Seventh District—Harold A. Housholder, Winthrop..... | 1953 |
| Eighth District—Clyde A. Boice, Washington, Secretary..... | 1954 |
| Ninth District—Elias B. Howell, Ottumwa..... | 1953 |
| Tenth District—Ivan K. Sayre, St. Charles..... | 1954 |
| Eleventh District—Oscar Alden, Red Oak..... | 1955 |

TRUSTEES

| | |
|---|------|
| Lonnie A. Coffin, Farmington, Chairman..... | 1953 |
| John W. Billingsley, Newton..... | 1954 |
| Wendell L. Downing, LeMars..... | 1955 |

DELEGATES TO A. M. A.

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|---|-----------------|
| George Braunlich, Davenport..... | January 1, 1955 |
| Julian E. McFarland, Ames..... | January 1, 1953 |
| Gerald V. Caughlan, Council Bluffs..... | January 1, 1954 |

ALTERNATE DELEGATES TO A. M. A.

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|------------------------------------|-----------------|
| Frank G. Ober, Burlington..... | January 1, 1955 |
| Ernest M. Kersten, Fort Dodge..... | January 1, 1953 |
| Donovan F. Ward, Dubuque..... | January 1, 1954 |

EXECUTIVE COUNCIL

| | |
|--------------------------------|----------------|
| Ben T. Whitaker, Chairman..... | Boone |
| Robert N. Larimer..... | Sioux City |
| Allan B. Phillips..... | Des Moines |
| N. Boyd Anderson..... | Des Moines |
| Lonnie A. Coffin..... | Farmington |
| John W. Billingsley..... | Newton |
| Wendell L. Downing..... | LeMars |
| Cluley C. Hall..... | Maynard |
| Charles H. Cretzmeyer..... | Algona |
| Matthew T. Morton..... | Estherville |
| Paul W. Brecher..... | Storm Lake |
| Ernest M. Kersten..... | Fort Dodge |
| Otis D. Wolfe..... | Marshalltown |
| Harold A. Housholder..... | Winthrop |
| Clyde A. Boice..... | Washington |
| Elias B. Howell..... | Ottumwa |
| Ivan K. Sayre..... | St. Charles |
| Oscar Alden..... | Red Oak |
| George Braunlich..... | Davenport |
| Julian E. McFarland..... | Ames |
| Gerald V. Caughlan..... | Council Bluffs |

THE JOURNAL

| | |
|------------------------|------------|
| Everett M. George..... | Des Moines |
|------------------------|------------|

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

| | |
|--------------------------------|------------|
| Ben T. Whitaker, Chairman..... | Boone |
| Robert N. Larimer..... | Sioux City |
| Allan B. Phillips..... | Des Moines |
| N. Boyd Anderson..... | Des Moines |

COMMITTEE ON CONSTITUTION AND BY-LAWS

| | |
|-----------------------------------|------------|
| George C. Albright, Chairman..... | Iowa City |
| Henry C. Scharnweber..... | Boone |
| Floyd M. Burgeson..... | Des Moines |

GRIEVANCE COMMITTEE

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|------------------------------------|------|
| Leo C. Kuhn, Decorah..... | 1954 |
| Leslie W. Swanson, Mason City..... | 1953 |
| Thomas L. Ward, Arnolds Park..... | 1954 |
| John W. Bushnell, Sioux City..... | 1953 |
| Lester D. Powell, Des Moines..... | 1954 |
| S. Dale Porter, Grinnell..... | 1953 |
| Joseph W. Lawrence, Dubuque..... | 1954 |
| Elmer A. Larsen, Centerville..... | 1954 |
| Lester E. Hooper, Indianola..... | 1953 |
| Charles H. Flynn, Clarinda..... | 1954 |

LEGISLATIVE COMMITTEE

| | |
|---------------------------------|------------|
| Frank C. Coleman, Chairman..... | Des Moines |
| John W. Billingsley..... | Newton |
| John D. Conner..... | Nevada |
| Ben T. Whitaker..... | Boone |
| Allan B. Phillips..... | Des Moines |

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

| | |
|----------------------------------|------------|
| Donald C. Conzett, Chairman..... | Dubuque |
| F. Harold Entz..... | Waterloo |
| Lee F. Hill..... | Des Moines |
| John H. Randall..... | Iowa City |
| George H. Scanlon..... | Iowa City |

MEDICOLEGAL COMMITTEE

| | |
|---|------|
| Frank A. Ely, Chairman, Des Moines..... | 1953 |
| Loren K. Meredith, Des Moines..... | 1955 |
| Eugene F. Van Epps, Iowa City..... | 1954 |

COMMITTEE ON MEDICAL SERVICE

| | |
|-------------------------------|-----------------|
| Fred Sternagel, Chairman..... | West Des Moines |
|-------------------------------|-----------------|

Insurance

| | |
|----------------------|------------|
| Martin I. Olsen..... | Des Moines |
|----------------------|------------|

Public Information—Doctor-Patient Relationships

| | |
|-------------------------------|--------------|
| Otto N. Glesne, Chairman..... | Fort Dodge |
| Donovan F. Ward..... | Dubuque |
| Cecil W. Seibert..... | Waterloo |
| Edward H. Files..... | Cedar Rapids |
| William M. Sproul..... | Des Moines |

Veterans' Affairs

| | |
|-------------------|----------|
| Roy C. Gutch..... | Chariton |
|-------------------|----------|

Allied Professions

| | |
|--------------------------------|------------|
| James E. Reeder, Chairman..... | Sioux City |
|--------------------------------|------------|

John B. Thielen.....Fonda
Eugene Smith.....Waterloo

Labor and Industry

Tom D. ThrockmortonDes Moines

Hospital and Professional Relations

Callistus H. Stark, Chairman.....Cedar Rapids
Ernest M. Kersten.....Fort Dodge
Gordon F. Harkness.....Davenport
Richard F. Birge.....Des Moines
Charles T. Maxwell.....Sioux City
Arthur W. Erskine.....Cedar Rapids
Nathaniel G. Alcock.....Iowa City

Relief and Health Agencies

Frank D. McCarthy, Chairman.....Sioux City
Social Welfare—Channing Smith.....Granger
TB and Heart—Ralph E. Smiley.....Mason City
Polio—Don H. Penly.....Cedar Falls
Crippled Children, Cancer, Red Cross, Women's Clubs,
AAUW, etc.—John C. De Meulenaere.....Grinnell

Health Education

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—
John D. Conner.....Nevada
Henry C. Scharnweber.....Boone
John J. Shurts.....Eldora

Industrial Health

Raymond F. Frech, Chairman.....Newton
Howard H. Smead.....Des Moines
Stanley T. Moen.....Cedar Rapids
Christian B. Luginbuhl.....Des Moines
Harold A. Spilman.....Ottumwa
Carl J. Lohmann.....Burlington
Leo J. Miltner.....Davenport
Harry A. Amesbury.....Clinton

Rural Health

Dwight G. Sattler, Chairman.....Kalona
Elmer A. Larsen.....Centerville
Bruce F. Howar.....Webster City
James M. Tierney.....Carroll
Robert S. Jaggard.....Oelwein

Geriatrics

Charles V. Edwards.....Council Bluffs

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmund F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Iowa City
J. Donald Hennessy.....Council Bluffs
Richard F. Birge.....Des Moines

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Joseph G. Fellows, Chairman.....Ames
Cecil V. Hamilton.....Garner
J. Stewart Jackson.....Mount Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids
Marcus B. Emmons.....Clinton
Charles C. Graves.....Des Moines
William E. Ash.....Council Bluffs
Gerald R. Rausch.....Sioux City

NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

John W. Ferguson, Chairman.....Newton
Edward M. Honke.....Sioux City
Frank G. Ober.....Burlington
William I. Evans.....Sac City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Rubin H. Flocks.....Iowa City
Willard S. Phetelplace.....Davenport

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Willis M. Fowler.....Iowa City
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Ralph E. Smiley, Chairman.....Mason City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
William Spear.....Oakdale

COUNTY MEDICAL SOCIETY OFFICERS

| COUNTY | PRESIDENT | SECRETARY | DEPUTY COUNCILOR |
|-------------------------|---------------------------------------|-------------------------------------|--|
| Adair..... | R. E. Wiley, Fontanelle..... | A. S. Bowers, Orient..... | A. S. Bowers, Orient |
| Adams..... | C. L. Bain, Corning..... | J. C. Nolan, Corning..... | A. W. Brunk, Prescott |
| Allamakee..... | M. F. Kiesau, Postville..... | R. R. Jefferies, Waukon..... | J. W. Thornton, Lansing |
| Appanoose..... | E. A. Larsen, Centerville..... | C. F. Brummitt, Centerville..... | E. A. Larsen, Centerville |
| Audubon..... | H. K. Merselis, Audubon..... | A. B. Cloud, Audubon..... | L. E. Jensen, Audubon |
| Benton..... | L. W. Koontz, Vinton..... | N. C. Knosp, Belle Plaine..... | N. C. Knosp, Belle Plaine |
| Black Hawk..... | C. N. Cooper, Waterloo..... | G. D. Phelps, Waterloo..... | D. W. Bickley, Waterloo |
| Boone..... | R. E. Gunn, Boone..... | A. W. Puntenney, Boone..... | H. C. Scharnweber, Boone |
| Bremer..... | H. W. Rathe, Waverly..... | R. P. Hardwig, Waverly..... | F. R. Sparks, Waverly |
| Buchanan..... | J. W. Barrett, Jr., Independence..... | J. F. Loeck, Independence..... | J. F. Loeck, Independence |
| Buena Vista..... | R. J. Mattice, Sioux Rapids..... | T. E. Shea, Storm Lake..... | H. E. Farnsworth, Storm Lake |
| Butler..... | M. D. Enna, Dumont..... | F. F. McKean, Allison..... | B. Ensley, Shell Rock |
| Calhoun..... | G. S. Rost, Lake City..... | P. Ferguson, Lake City..... | J. H. Faust, Manson |
| Carroll..... | A. R. Anneberg, Carroll..... | J. M. Tierney, Carroll..... | J. R. Martin, Carroll |
| Cass..... | R. H. Moe, Griswold..... | J. F. Moriarty, Atlantic..... | W. F. Giegerich, Atlantic |
| Cedar..... | H. E. O'Neal, Tipton..... | O. E. Kruse, Tipton..... | P. M. Hoffman, Tipton |
| Cerro Gordo..... | S. Brownstone, Clear Lake..... | G. I. Tice, Mason City..... | L. W. Swanson, Mason City |
| Cherokee..... | J. H. Wise, Cherokee..... | D. C. Koser, Cherokee..... | C. E. Broderick, Cherokee |
| Chickasaw..... | A. L. Murphey, Fredericksburg..... | J. H. Ahrens, New Hampton..... | E. Gardner, New Hampton |
| Clarke..... | C. R. Harken, Osceola..... | H. N. Boden, Osceola..... | H. E. Stroy, Osceola |
| Clay..... | | G. F. Fieselmann, Spencer..... | C. C. Jones, Spencer |
| Clayton..... | T. W. Lichter, Edgewood..... | A. R. Powell, Elkader..... | P. R. V. Hommel, Elkader |
| Clinton..... | E. T. Carey, Clinton..... | M. E. Barrent, Clinton..... | R. F. Luse, Clinton |
| Crawford..... | J. M. Hennessey, Manilla..... | J. J. Gleeson, Vall..... | R. M. Johnson, Denison |
| Dallas-Guthrie..... | A. G. Felter, Van Meter..... | W. C. Wildberger, Perry..... | C. A. Nicoll, Panora and A. M. Cochrane, Adel |
| Davis..... | R. Schoonover, Bloomfield..... | H. C. Young, Bloomfield..... | |
| Decatur..... | T. R. Viner, Leon..... | G. W. Swanson, Lamoni..... | W. N. Doss, Leon |
| Delaware..... | R. E. Clark, Manchester..... | J. E. Tyrrell, Manchester..... | W. J. Willett, Manchester |
| Des Moines..... | H. Eastburn, Burlington..... | J. F. Sulzbach, Burlington..... | F. G. Ober, Burlington |
| Dickinson..... | P. A. Scott, Spirit Lake..... | R. F. Wolcott, Spirit Lake..... | T. L. Ward, Arnolds Park |
| Dubuque..... | E. T. Thorsness, Dubuque..... | M. S. Lagen, Dubuque..... | D. F. Ward, Dubuque |
| Emmett..... | L. E. Collins, Estherville..... | E. K. Vaubel, Estherville..... | C. S. Kirkegaard, Estherville |
| Fayette..... | L. E. Ketner, Oelwein..... | A. F. Grandinetti, Oelwein..... | |
| Floyd..... | H. A. Tolliver, Charles City..... | E. V. Ayers, Charles City..... | R. A. Fox, Charles City |
| Franklin..... | W. L. Randall, Hampton..... | R. T. Day, Hampton..... | W. L. Randall, Hampton |
| Fremont..... | R. Lovelady, Sidney..... | A. E. Wanamaker, Hamburg..... | R. Lovelady, Sidney |
| Greene..... | M. H. Brinker, Jefferson..... | E. D. Thompson, Jefferson..... | M. H. Brinker, Jefferson |
| Grundy..... | | W. K. Kienzie, Wellsburg..... | E. A. Reedholm, Grundy Center |
| Hamilton..... | O. C. Buxton, Webster City..... | W. B. McGahey, Webster City..... | B. F. Howar, Webster City |
| Hancock-Winnebagos..... | T. J. Irish, Forest City..... | A. H. Dulmes, Klemme..... | C. V. Hamilton, Garner |
| Hardin..... | R. A. Eckberg, Hubbard..... | F. N. Cole, Iowa Falls..... | L. F. Parker, Iowa Falls |
| Harrison..... | Hans Hansen, Logan..... | B. E. Kenney, Woodbine..... | F. A. Hanson, Magnolia |
| Henry..... | J. R. Beebe, Mt. Pleasant..... | J. G. Widmer, Wayland..... | J. S. Jackson, Mt. Pleasant |
| Howard..... | C. A. Field, Cresco..... | M. E. Henslin, Cresco..... | P. A. Nierling, Cresco |
| Humboldt..... | J. H. Coddington, Humboldt..... | R. W. Beardsley, Livermore..... | I. T. Schultz, Humboldt |
| Ida..... | E. H. Heilman, Ida Grove..... | J. B. Dressler, Ida Grove..... | M. W. Grubb, Galva |
| Iowa..... | G. W. Howe, Marengo..... | I. J. Sinn, Williamsburg..... | C. F. Watts, Marengo |
| Jackson..... | J. A. Broman, Maquoketa..... | W. C. Zabloudil, Preston..... | F. J. Swift, Maquoketa |
| Jasper..... | J. R. Singer, Newton..... | L. H. Koelling, Newton..... | J. W. Ferguson, Newton |
| Jefferson..... | L. D. James, Fairfield..... | J. W. Castell, Fairfield..... | R. A. McGuire, Fairfield |
| Johnson..... | J. W. Dulin, Iowa City..... | E. J. Boyd, Iowa City..... | G. C. Albright, Iowa City |
| Jones..... | C. R. Smith, Wyoming..... | R. W. Myers, Monticello..... | T. M. Redmond, Anamosa |
| Keokuk..... | A. M. Harwood, Sigourney..... | J. Maxwell, What Cheer..... | D. L. Grothaus, Delta |
| Kossuth..... | J. N. Kenefick, Algona..... | J. M. Schutter, Algona..... | J. G. Clapsaddle, Burt |
| Lee..... | G. C. McGinnis, Ft. Madison..... | W. B. Kasiske, Keokuk..... | F. L. Feightner, Ft. Madison L. C. Pumphrey, Keokuk |
| Linn..... | E. H. Files, Cedar Rapids..... | W. K. Cooper, Cedar Rapids..... | |
| Louisa..... | E. S. Groben, Columbus Jet..... | J. H. Chittum, Wapello..... | J. H. Chittum, Wapello |
| Lucas..... | A. L. Yocom, Chariton..... | R. E. Anderson, Chariton..... | R. E. Anderson, Chariton |
| Lyon..... | A. C. Wubbena, Rock Rapids..... | S. H. Cook, Rock Rapids..... | S. H. Cook, Rock Rapids |
| Madison..... | G. J. Anderson, Winterset..... | P. F. Chesnut, Winterset..... | C. B. Hicklenlooper, Winterset |
| Mahaska..... | R. M. Collison, Oskaloosa..... | G. S. Atkinson, Oskaloosa..... | E. B. Wilcox, Oskaloosa |
| Marion..... | D. A. Mater, Knoxville..... | W. W. Bourke, Knoxville..... | H. L. Bridgeman, Knoxville |
| Marshall..... | B. M. Biersborn, State Center..... | H. E. Sauer, Marshalltown..... | R. C. Carpenter, Marshalltown |
| Mills..... | W. A. DeYoung, Glenwood..... | T. E. Shonka, Malvern..... | T. E. Shonka, Malvern |
| Mitchell..... | C. F. Watson, Stacyville..... | R. B. Isham, Osage..... | J. O. Eiel, Osage |
| Monona..... | J. L. Garred, Whiting..... | P. L. Wolpert, Onawa..... | C. W. Young, Onawa |
| Monroe..... | G. A. Jenkins, Albia..... | H. J. Richter, Albia..... | H. J. Richter, Albia |
| Montgomery..... | F. A. Hansen, Red Oak..... | H. C. Bastron, Red Oak..... | E. L. Croxdale, Villisca |
| Muscatine..... | W. E. Catalona, Muscatine..... | V. W. Swayze, Muscatine..... | C. P. Phillips, Muscatine |
| O'Brien..... | L. M. Dyke, Sheldon..... | W. S. Balkema, Sheldon..... | T. D. Kas, Sutherland |
| Osceola..... | E. S. Aeilts, Sibley..... | F. M. Rizzo, Sibley..... | F. M. Rizzo, Sibley |
| Page..... | F. S. Sperry, Clarinda..... | S. T. Ramsdell, Clarinda..... | C. H. Flynn, Clarinda |
| Palo Alto..... | J. E. Black, Emmetsburg..... | C. C. Moore, Emmetsburg..... | H. L. Brereton, Emmetsburg |
| Plymouth..... | R. J. Fisch, LeMars..... | L. C. O'Toole, Le Mars..... | H. L. Vander Stoep, Le Mars |
| Pocahontas..... | J. B. Thielen, Fonda..... | C. L. Jones, Gilmore City..... | C. L. Jones, Gilmore City |
| Polk..... | T. B. Throckmorton, Des Moines..... | F. C. Coleman, Des Moines..... | M. T. Bates, Des Moines |
| Pottawattamie..... | K. L. Thompson, Oakland..... | A. M. Pedersen, Council Bluffs..... | G. V. Caughlan, Council Bluffs |
| Poweshiek..... | J. R. Parish, Grinnell..... | L. C. Hickerson, Brooklyn..... | S. D. Porter, Grinnell |
| Ringgold..... | W. G. Doss, Mt. Ayr..... | J. W. Hill, Mt. Ayr..... | E. J. Watson, Diagonal |
| Sac..... | J. H. Stalford, Sac City..... | L. D. Amick, Sac City..... | C. E. Lierman, Lake View |
| Scott..... | P. E. Gibson, Davenport..... | A. B. Hendricks, Davenport..... | P. A. White, Davenport |
| Shelby..... | L. V. Larsen, Harlan..... | J. H. Spearing, Harlan..... | J. H. Spearing, Harlan |
| Sioux..... | A. Bushmer, Orange City..... | C. B. Murphy, Alton..... | W. Doornink, Orange City |
| Story..... | J. W. Thompson, Ames..... | W. B. Armstrong, Ames..... | J. D. Conner, Nevada |
| Tama..... | G. M. Dalbey, Traer..... | A. J. Havlik, Tama..... | A. J. Havlik, Tama |
| Taylor..... | R. W. Boulden, Lenox..... | H. C. Moore, Clearfield..... | G. W. Rimel, Bedford |
| Union..... | M. R. Paragas, Creston..... | H. J. Peggs, Creston..... | C. C. Rambo, Creston |
| Van Buren..... | L. N. Hungerford, Jr., Keosauqua..... | J. T. Worrell, Keosauqua..... | L. A. Coffin, Farmington |
| Wapello..... | W. C. Wolfe, Ottumwa..... | E. B. Hoeven, Ottumwa..... | C. A. Henry, Farson |
| Warren..... | G. A. Jardine, New Virginia..... | D. M. Hickman, Indianola..... | C. A. Trueblood, Indianola |
| Washington..... | J. M. Lloyd, Washington..... | W. S. Kyle, Washington..... | E. D. Miller, Wellman |
| Wayne..... | C. N. Hyatt, Humeston..... | C. F. Brubaker, Corydon..... | J. H. McCall, Allerton |
| Webster..... | M. G. Sanders, Fort Dodge..... | E. M. Van Patten, Fort Dodge..... | C. J. Baker, Fort Dodge |
| Winnebiek..... | R. M. Dahlquist, Decorah..... | L. C. Kuhn, Decorah..... | L. C. Kuhn, Decorah |
| Woodbury..... | A. Q. Johnson, Sioux City..... | P. W. Osincup, Sioux City..... | D. B. Blume, Sioux City |
| Worth..... | G. S. Westly, Manly..... | B. H. Osten, Northwood..... | G. S. Westly, Manly |
| Wright..... | G. B. Hogenson, Eagle Grove..... | J. R. Christensen, Eagle Grove..... | S. P. Leinbach, Belmond |

MEMBERSHIP ROSTER
of the
**IOWA STATE MEDICAL
SOCIETY**
1952

**Members in Good Standing
as of
June 15, 1952**

- Agesen, Carl A., Dows
 Abbott, Walter D., Des Moines
 Acher, Albert E., Fort Dodge
 Acker, Wesley H., Waterloo
 Ackerman, Emma M., Sioux City
 *Ackerman, John H., Clarksville
 *Adair, Gael M., Anita
 Adams, Carroll O., Mason City
 Adams, Ernest M., Central City (L.M.)
 Adams, Leon P., Newton
 Addison, Cornelius P., Fort Dodge
 Ady, Albert E., West Liberty
 Aeilts, Eerko S., Sibley
 Agnew, Fred F., Independence (L.M.)
 Agnew, James W., Davenport
 Ahmann, Edward J., Walcott
 Ahrens, John H., New Hampton
 Aid, Francis H., Burlington
 *Alberts, Marion E., Des Moines
 Albright, George C., Iowa City
 Alcock, Nathaniel G., Iowa City
 Alden, Oscar, Red Oak
 Aldrich, J. Frank, Clarinda (L.M.)
 Aleshire, Irma, Iowa City
 Alftine, David C., Muscatine
 Allen, Hoyt H., Fort Dodge
 Allen, Marion B., Fort Dodge
 Allen, Robert B., Mediapolis
 Allen, Roy J., Des Moines
 Allender, Robert B., Marion
 Almqvist, Reuben E., Albert City
 Ambery, Sebastian, Keokuk
 Ames, William H., Iowa City
 Amesbury, Harry A., Clinton
 Amick, Lawrence D., Sac City
 Amick, Louis B., Sac City
 Amick, Perry P., Des Moines
 Amlie, Paul J., Waverly
 Andersen, Bruce V., Greene
 Andersen, Holger M., Strawberry Point
 Andersen, Kenneth N., Center Point
 Anderson, DeWayne C., Stanhope
 Anderson, Glenn J., Winterset
 Anderson, Harold N., Des Moines
 Anderson, James D., Des Moines
 Anderson, N. Boyd, Des Moines
 Anderson, Robert E., Chariton
 Anderson, Stanley N., Onawa
 Anderson, Walter D., Des Moines
 Andre, Gaylord R., Lisbon
 Andrew, Earl V., Maquoketa
 *Angell, Charles A., Des Moines
 Anneberg, A. Reas, Carroll
 Anneberg, Paul D., Carroll
 Anneberg, Walter A., Carroll
 Anrode, Ralph A., Davenport
 Anspach, Ellen E. F., Mitchellville
 Anspach, Royal G., Colfax
 Anspach, Royal S., Mitchellville
 Anthony, Walter E., Ottumwa
 Arent, Asa S., Humboldt
 Arkin, Archie A., Des Moines
 Armitage, George I., Osceola
 Armstrong, Frederick C., Cascade
 Armstrong, Max A., Newell
 Armstrong, Robert B., Ida Grove
 Armstrong, William B., Ames
 Arnold, Dorothy J., Iowa City
 Arnold, Keith E., Sioux City
 Ash, William E., Council Bluffs
 *Ashby, John D., Davenport
 Ashline, George H., Keokuk
 Asthalter, Robert W., Muscatine
 Atkinson, George S., Oskaloosa
 Atkinson, John, Jr., Ottumwa
 Austin, Arthur T., Ottumwa
 Ayers, Emmet V., Charles City
 Ayers, LeRoy J., Sioux City
 Bacon, John F., Ames
 Bacon, Joshua E., Dubuque
 Bailey, Jesse L., Des Moines
 Bain, C. Lorimer, Corning
 Baird, William A., Ames
 Bairson, George A., Cedar Falls
 Baker, Charles J., Fort Dodge
 Baker, Walter E., Des Moines (L.M.)
 Bakody, John T., Des Moines
 Baldwin, Leon A., Riverton
 Balkema, Walter S., Sheldon
 Baltzell, Winston C., Charles City
 Balzer, Walter J., Davenport
 Banton, Oscar H., Charles City
 Barber, Oliver S., West Chicago, Ill. (L.M.)
 Barbieri, Angelo B., Garwin
 Barbour, Howard W., Mason City
 Barg, Egmont H., Mason City
 Barnes, Bernard C., Des Moines
 Barnes, Milford E., Iowa City
 Barnett, Sylvester W., Cedar Falls
 Barr, Guy E., Sioux City
 Barrent, Milton E., Clinton
 Barrett, James W., Independence
 Barrett, Sterling A., Waterloo
 *Bartholomew, Richard D., Lake City
 Bartel, Robert M., Waverly
 Bartlett, George E., New Sharon
 *Bartley, Richard L., Sully
 Barton, Edwin G., Ottumwa (L.M.)
 Barton, Robert L., Dubuque
 Bartruff, Charles H., Reinbeck
 Bascom, Lewis A., Nora Springs
 Basinger, Byron L., Goldfield
 Bastron, Harold C., Red Oak
 Bates, Ernest G., Aurelia
 Bates, Maurice T., Des Moines
 Baumann, James G., Charles City
 Bausch, Richard G., Cedar Rapids
 Bay, Frank N., Albia
 Beal, Arline M., Davenport
 Bean, Elmer O., Council Bluffs
 Bean, William B., Iowa City
 Beardsley, David E., Cedar Rapids
 Beardsley, Ralph W., Livermore
 Beatty, Alexander S., Creston
 Beatty, Edward D., Arnolds Park (L.M.)
 Beatty, Howard G., Creston
 Beaumont, Fred H., Council Bluffs
 Beckman, Charles W., Kalona
 Beckman, Peter W., Perry
 Beddoes, Morris G., Waterloo
 Bedell, George N., Iowa City
 Beebe, John R., Mount Pleasant
 Beebe, Kenneth P., Mount Pleasant
 Beeh, Edward F., Fort Dodge
 Bees, Louis E., Bennett
 Behrens, George W., Davenport
 Bell, Edward P., Pleasantville (L.M.)
 Bell, Robert S., Burlington
 Bender, Henry A., Waterloo
 Bendixen, Frederick C., LeMars
 Benfer, Merrill M., Davenport
 *Benge, Donald K., Dows
 Bennett, Andrew W., Iowa City
 Bennett, Chester G., Iowa City
 Bennett, Geoffrey W., Oskaloosa
 Benton, Jay S., Des Moines
 Berg, John W., Iowa City
 Bergen, Charles T., Hampton
 Berger, Raymond A., Davenport
 Berggreen, Raymond G., Mason City
 Bergstrom, Albin C., Missouri Valley
 Berkstresser, Charles F., Sioux City
 Bernard, Ransom D., Des Moines
 Berndt, Allen E., Cedar Rapids
 Berney, Paul W., Cedar Rapids
 Bessmer, William G., Davenport
 Best, Gorden N., Council Bluffs
 Bettler, Philip L., Sioux City
 Beye, Cyrus L., Iowa City
 Bezman, Harry S., Traer
 Bickert, J. Norman, Cedar Rapids
 Bickley, Donald W., Waterloo
 Bickley, John W., Waterloo
 Biebesheimer, George A., Reinbeck
 Bierman, Martyn H., Council Bluffs
 Bierring, Walter L., Des Moines (L.M.)
 Biersborn, Byron M., State Center
 Bigelow, Charles T., LaGrange, Ill. (L.M.)
 Billerbeck, Henry J., Denison
 Billingsley, John W., Newton
 Binford, William S., Davenport (L.M.)
 Bird, Raymond G., Clarion
 Birge, Richard F., Des Moines
 Birney, Cleanthus E., Estherville (L.M.)
 Bisgard, Carl V., Harlan
 Bishop, James F., Davenport
 Black, Harold C., Des Moines
 Black, James E., Sioux City
 Blackstone, Martin A., Sioux City
 Blaha, George A., Whitten
 Blaha, Vernon B., Marshalltown
 Blair, Donald W., Des Moines
 Blair, James B., Cherokee
 Blanchard, Russell W., Council Bluffs
 Blenderman, Albert D., Paullina
 Bliss, William R., Ames
 Block, Charles E., Davenport
 Block, Lawrence A., Davenport
 Block, Walter M., Cedar Rapids
 Blome, Arthur L., Ottumwa
 Blome, Glenn C., Ottumwa
 Blong, Theodore E., Stacyville
 Blum, Aloysius A., Wall Lake
 Blume, Donald B., Sioux City
 Blumgren, John E., Vinton
 Boden, Herbert N., Osceola
 Boden, Worthey C., Sioux City
 Boe, Henry, Sioux City
 Boekelheide, Priscilla D., Riverside
 Bogle, Warren C., Marion
 Boice, Clyde A., Washington (L.M.)
 Boiler, William F., Iowa City
 Boller, Galen C., Waterloo
 Bond, Thomas A., Des Moines
 Bond, Thomas P., Des Moines (L.M.)
 Bone, Harold C., Des Moines
 Bonfiglio, Michael, Iowa City
 Borgen, Donald L., Gowrie
 Borre, Helge, Red Oak
 Borts, Irving H., Iowa City
 Bos, Howard C., Oskaloosa
 Bosch, Calvin C. F., Sibley
 Bossingham, Earl N., Clarinda
 Boston, Burr C., Waterloo
 Bosworth, Wesley F., Clarinda
 Boughn, J. Kent, Mapleton
 Bouden, Roger W., Lenox
 Boulware, Lois, Iowa City
 Bourke, William W., Knoxville
 Bourque, Joseph N., Davenport
 Bourne, Melvin G., Algona
 Bouthilet, Florence J., Mason City
 Bovenmyer, DeVoe O., Ottumwa
 Bowen, Frederick S., Woodburn (L.M.)
 Bowers, Arthur S., Orient
 Bowers, Clifford V., Sioux City
 Bowers, Henry W., Nevada
 Bowie, Louis L., Marshalltown
 Bowser, William F., Davenport (L.M.)
 Boyd, Eugene J., Iowa City
 Boyd, Julian D., Iowa City
 Boyer, Howard C., Council Bluffs (L.M.)
 Boyer, Ulysses S., Davenport
 Bozek, Thaddeus T., West Branch
 *Braatelen, Newell T., Des Moines
 Bradford, Clyde R., Des Moines
 Bradford, George T., Dubuque
 Bradley, Carl L., Newhall
 Bradshaw, Douglas, Fort Dodge
 Braley, Alson E., Iowa City
 Braunlich, George, Davenport
 Bray, Daniel L., Algona
 Brecher, Paul W., Storm Lake
 Brennan, James E., Des Moines
 Brereton, Harold L., Emmetsburg
 Brewster, Calvin O., Britt
 Bridgeman, Harry L., Knoxville (L.M.)
 Bries, Frank J., Holy Cross
 Brindley, Robert W., Des Moines
 Brinegar, Willard C., Cherokee
 Brink, Raymond J., Ayreshire
 Brinker, Marion H., Jefferson
 Brinkman, William F., Pocahontas
 Brintnall, Edgar S., Iowa City
 Brobyn, Thomas E., Grinnell
 Broderick, Clarence E., Cherokee
 Brody, Sidney, Ottumwa
 Broers, Merlin U., Denison
 Broman, John A., Maquoketa
 Brown, Addison W., Des Moines
 Brown, Arthur C., Council Bluffs
 Brown, Carroll A., Sioux City
 Brown, Douglas H., Forest City
 *Brown, Gates M., Dayton (L.M.)
 Brown, Harold L., Sioux City
 Brown, Ivan E., Hartley
 Brown, Kenneth R., Leon
 Brown, Merle J., Davenport
 *Brown, Robert C., Mason City
 Brown, Wayne B., Mount Pleasant
 Brown, William J., Jr., Wellesley, Mass.
 Brownstone, Manuel, Clear Lake
 Brownstone, Sidney, Clear Lake
 Brubaker, Carl F., Corydon
 Bruce, James H., Fort Dodge
 *Bruechert, Henry N., Parkersburg
 Brumer, Herbert B., Clinton
 Brummitt, Charles F., Centerville
 Brundige, Ralph E., Akron
 Bruner, Julian M., Des Moines
 Brunk, Amos W., Prescott
 Brunner, Walter J., Akron
 Brush, C. Herbert, Shenandoah
 Brush, Frederick C., Mason City
 Buchanan, John J., Milford
 Buckmaster, Raleigh A., Dunkerton
 Buckwalter, Joseph A., Iowa City
 Bullock, Alfred L., Cushing
 Bullock, Grant D., Inwood
 Bullock, William E., Lake Park (L.M.)
 Bunch, Harold M., Shenandoah
 Bunge, Raymond G. E., Iowa City
 Burbank, Dean S., Pleasantville
 Burch, Earl S., Dayton
 Burcham, Thomas A., Des Moines
 Buresh, Abner, Lime Springs
 Burgeson, Floyd M., Des Moines
 Burgess, Arthur W., Iowa Falls
 Burham, William A., Ainsworth
 Burke, Edmund T., Des Moines
 Burke, Thomas A., Mason City

- Burleson, Marvin W., Fort Dodge
 Burns, Harry, Des Moines
 Burnside, Raymond A., Des Moines
 Burr, Charles L., Des Moines
 Burroughs, Hubert H., Sioux City
 Bursheim, Peder J., Des Moines
 Bush, Earl B., Ames
 Bushmer, Alexander, Orange City
 Bushnell, John W., Sioux City
 Butler, Margaret K., Fort Dodge
 Butterfield, Edwin J., Tucson, Ariz. (L.M.)
 Buxton, Otho C., Jr., Webster City
 Byrnes, Clemmet W., Dunlap
 Byrum, Robert J., Davenport
- Cahn, Philipp, Oakdale
 Calbreath, Lloyd B., Humeston
 Callaghan, Ambrose J., Sioux City
 Callahan, George D., Iowa City
 *Camp, John R., Thompson
 Campbell, Nathan, Yarmouth
 Campbell, Thomas R., Sioux Rapids
 Campbell, Walter V., Oskaloosa
 Canady, George F., Jefferson
 Cantwell, John D., Davenport (L.M.)
 Carey, Edward T., Clinton
 Carey, Michael J., Council Bluffs
 Carlile, Amos W., Manning
 Carlson, Elmer H., Muscatine
 Carlson, Frank G., Mason City (L.M.)
 Carlson, Rudie J., Cedar Falls
 Carney, Robert G., Iowa City
 Carney, Roscoe P., Davenport
 Carpenter, Fred E., Newton
 Carpenter, Ralph C., Marshalltown
 Carr, Leslie L., West Union
 Carr, Thomas L., Iowa City
 Carrigg, Lawrence G., Cedar Rapids
 Carroll, Thomas J., Sibley
 Carryer, Carl H., Des Moines (L.M.)
 Carson, Andros, Des Moines (L.M.)
 *Carson, Raymond W., Winterset
 Carstensen, Albert B., Linn Grove
 Carstensen, Vincent H., Waverly
 Carter, John R., Iowa City
 Carver, David C., Rockwell City
 Carver, William F., Fort Dodge (L.M.)
 Cary, Walter, Dubuque
 Cash, Paul T., Des Moines
 Cash, William H., Lenox
 Castell, John W., Fairfield
 Castles, William A., Dallas Center
 Catalona, William E., Muscatine
 Catlin, Karl A., Clarinda
 Catterson, Leroy F., Oskaloosa
 Caughlan, Gerald V., Council Bluffs
 Cauley, Francis P., Anthon
 Caulfield, John D., New Hampton
 Chain, Leo W., Dedham
 Challed, Don S., Cedar Rapids
 Chambers, Charles L., Des Moines (L.M.)
 Chambers, James W., Des Moines
 Chapler, Keith M., Dexter
 Chapman, Robert M., Cedar Rapids
 Chase, Sumner B., Fort Dodge
 Chase, Walter E., Rippey
 Chase, William B., Des Moines (L.M.)
 Chase, William B., Jr., Des Moines
 Chenoweth, Charles E., Mason City
 Chesnut, Paul F., Winterset
 Chester, Walter S., Albia
 Childs, Hal A., Creston (L.M.)
 Chittum, Josiah M., North Liberty (L.M.)
 Chittum, John H., Wapello (L.M.)
 Christensen, Eunice M., Spencer
 Christensen, Everett D., Spencer
 Christensen, Floyd D., Remsen
 Christensen, John R., Eagle Grove
 *Christensen, John R., II, Eagle Grove
 Christiansen, Charles C., Grand Mound
 Christiansen, James, Sioux City
 Christiansen, John E., Durant
 Christopherson, Joseph E., Mason City
 Clapsaddle, Dean W., Clear Lake
 Clapsaddle, John G., Burt
 Clark, Clayton W., Nashua
 Clark, Edward C., Iowa City
 *Clark, Frank H., Clarinda
 Clark, George H., Oskaloosa
 Clark, James I., Des Moines
 Clark, James P., Estherville
 Clark, Orson W., Ogden
 Clark, Richardson E., Manchester
 Clark, Thomas D., Knoxville
 Clary, William H., Prescott (L.M.)
 Clasen, Henry W., Cedar Falls (L.M.)
 Clifton, James A., Oakdale
 Cline, Hubert L., Iowa City
- Closson, Charles L., Walker
 Cloud, Arthur B., Audubon
 Cmeyla, Patrick M., Sioux City
 Cobb, Elliott A., Cedar Rapids
 Cobb, Elliott C., Sioux City
 Cochran, J. Lawrence, Carroll
 Cochrane, Allen M., Adel
 Coddington, James H., Humboldt
 Cody, William E., Sioux City
 Coffin, Lonnie A., Farmington
 Cogley, John P., Council Bluffs
 Cohen, Sidney A., Council Bluffs
 Colbert, Lawrence D., Royal
 Cole, Elmer J., Woodbine (L.M.)
 Cole, Fern N., Iowa Falls
 Cole, Harold P., Thurman
 Cole, Julia, Ames
 Coleman, Francis C., Des Moines
 Collignon, Urban J., Council Bluffs
 Collins, Harry A., Des Moines
 Collins, Loren E., Rochester, Minn.
 Collins, Robert M., Council Bluffs
 Collision, Robert M., Oskaloosa
 Conkling, Russell W., Des Moines
 Conley, Rollin M., Perry
 Conlon, James B., Council Bluffs
 Conmeyer, Roy M., Sergeant Bluffs
 Connell, John, Des Moines
 Connelly, Edgar J., Dubuque
 Conner, John D., Nevada
 Conzett, Donald C., Dubuque
 Cook, Kenneth G., Fairfield
 Cook, R. Sanford, Tipton
 Cook, Stuart H., Rock Rapids
 Cooper, Clark N., Waterloo
 Cooper, Dean C., Fort Dodge
 Cooper, Gladys A., Red Oak
 Cooper, Jay C., Villisca
 Cooper, Raymond E., Keokuk
 Cooper, Wayne K., Cedar Rapids
 Coppoc, Loran E., Ottumwa
 Corbin, Sylvannus W., Corydon
 Corcoran, Thomas E., Des Moines
 Cords, Charles H., Rudd
 Coriden, Thomas L., Sioux City
 Corn, Henry H., Des Moines
 Cornell, Corwin S., Knoxville
 Cornish, James A., Storm Lake
 Couchman, Phillip G., Des Moines
 Coughlan, Charles H., Fort Dodge
 Coughlan, Daniel W., Des Moines
 Coulson, Forest H., Burlington
 *Coyne, Kenneth M., Burlington
 Crabb, Dayle N., Denison
 Crabb, George M., Mason City
 Crain, Lewis F., Deep River (L.M.)
 Crain, Mattie M., Deep River (L.M.)
 Crandall, Jack S., Marshalltown
 Crawford, Robert H., Burlington
 Crawford, W. McCulloch, Burlington
 Creamer, Frank H., Boone (L.M.)
 Cressler, Frank E., Churдан
 Cretzmeyer, Charles H., Algona (L.M.)
 Cretzmeyer, Charles H., Jr., Philadelphia, Pa.
 Crew, Arthur E., Marion (L.M.)
 Crew, Philip I., Cedar Rapids
 Cross, Donald L., Boone
 Cross, Kenneth R., Iowa City
 Crossley, J. Wesley, Mason City
 Crow, George B., Burlington
 Crowley, Daniel F., Des Moines (L.M.)
 Crowley, Daniel F., Jr., Des Moines
 Croxdale, Edward L., Villisca
 Crumpton, Robert C., Webster City
 Culbertson, James W., Iowa City
 Cullen, Stuart C., Iowa City
 Cullison, Robert M., Winston Salem, N. C.
 Culp, David A., Iowa City
 Cunningham, Glenn D., Davenport
 Cunningham, Melvin B., Norwalk
 Curtis, Dean, Chariton
 Cusick, George W., Davenport
- Dahl, Harry W., Des Moines
 Dahlbo, John E., Sutherland
 Dahlquist, Ralph M., Decorah
 *Dalager, Robert D., Ottumwa
 Dalbey, Glenn M., Traer
 Dana, Ethel S., Ottumwa
 Danielson, May, Clinton
 Danley, Royal C., Hamburg
 Darling, John P., Mason City
 Darrow, Clarence A., Dubuque
 Daut, Richard V., Davenport
 Daut, Walter W., Muscatine
 Davey, William P., Sioux City
 *Davidson, Maurice C., Emmetsburg
 Davidson, Thorald E., Mason City
 *Davis, Stanley K., Des Moines
- Dawson, Emerson B., Fort Dodge
 Dawson, Leon E., Des Moines
 Day, Philip M., Oskaloosa
 Day, Richard T., Hampton
 Dean, Abbott M., Council Bluffs
 Dean, Frank W., Council Bluffs (L.M.)
 Dean, Ray H., Washington (L.M.)
 Dean, William F., Osceola (L.M.)
 Deanton, Helen J., Iowa City
 DeBartolo, James J., Des Moines
 DeCicco, Ralph, Greenfield
 Decker, Charles E., Davenport
 Decker, Henry G., Des Moines
 Decker, Jay C., Sioux City
 DeGowin, Elmer L., Iowa City
 Demaree, Chester, Lacona (L.M.)
 De Meulenaere, John C., Grinnell
 Dempewolf, Robert D., Bellevue
 Dennison, John C., Bellevue (L.M.)
 Deranleau, Robert F., Perry
 Derauf, Donald E., Des Moines
 DeShaw, Earl H., Monticello
 Des Marias, Varina, Grundy Center
 Devine, James S., Whittemore
 Dewees, Frank L., Keokuk
 Dewey, Jay R., Schaller
 Dewitt, Charles H., Jr., Macedonia
 DeYoung, Ward A., Glenwood
 Diamond, Bernard, Waterloo
 Diddy, Keith W., Perry
 Dierker, Bernard J., Fort Madison
 Dierker, LeRoy J., Fort Madison
 Dimsdale, Louis J., Sioux City
 Dingman, Marshall E., Urbana
 Ditto, Boyd L., Burlington
 Doane, Grace O., Des Moines
 Dobson, Richard A., Sioux City
 Dodge, Lynn, Ames
 Doering, Valentine T., Fort Madison
 Dolan, Henry F., Anamosa
 Dolan, Thomas R., Anamosa
 Doles, James W., Knoxville
 Dolmage, George F., Buffalo Center
 *Donahoe, Joseph F., Fort Dodge
 Donahue, James C., Centerville
 Donlin, Robert E., Harlan
 Donnelly, Madeline M., Des Moines
 Donohoe, Anthony P., Davenport (L.M.)
 Donohue, Edmund S., Sioux City
 Donovan, William H., Iowa City
 *Dooley, John E., Jr., Fort Dodge
 Doornink, William, Orange City
 Dorner, Ralph A., Des Moines
 Dorsey, Thomas J., Fort Dodge
 Doss, W. Gordon, Mount Ayr
 Doss, W. Norman, Leon
 Down, Howard I., Sioux City
 Downing, Arthur H., Des Moines
 Downing, James A., Des Moines
 Downing, John S., Cedar Rapids
 Downing, Leroy M., Cedar Rapids
 Downing, Wendell L., LeMars
 Downs, Vernon S., Ottumwa
 Doyle, Bernard J., Des Moines
 Dressler, John B., Ida Grove
 Drew, Edward J., Des Moines
 Drier, William C., Waterloo
 Driver, Richard W., Waterloo
 Drown, Roger E., Fort Dodge
 Dubansky, Marvin H., Iowa City
 Duewall, Rudolph H., West Des Moines
 Dulin, Evelyn H., Iowa City
 Dulin, John W., Iowa City
 Dulin, Tarana J. G., Iowa City (L.M.)
 Duling, Raymond J., Sioux City
 Dulmes, Abraham H., Klemme
 Dunlap, Wallace A., Des Moines (L.M.)
 Dunn, Francis C., Cedar Rapids
 Dunn, James, Davenport
 Dunseth, Ward R., Kellogg
 Dusdieker, Stanley W., Des Moines
 Dushkin, Milton A., Chicago, Ill.
 Dutton, Dean A., Van Horne
 Dvorak, Joseph E., Sioux City
 Dwyer, Bernard B., Clinton
 Dwyer, Robert E., Clinton
 Dyke, Lester M., Sheldon
 Dyson, James E., Des Moines
 Dyson, Ralph E., Des Moines
- Eastburn, Harvey B., Burlington
 Eaton, Robert C., Clarion
 Ebinger, Edward W., Ottumwa
 Echternacht, Arthur P., Fort Dodge
 Eckberg, Richard A., Hubbard
 Eckhardt, Richard D., Iowa City
 Eckstein, John W., Iowa City
 Edington, Frank D., Spencer
 Edwards, Charles C., Des Moines
 Edwards, Charles V., Council Bluffs

- Edwards, Ralph R., Centerville
 Egan, Thomas J., Bancroft
 Egbert, Dan S., Fort Dodge
 Eggermayer, George W., Elliott
 Eggleston, Alfred A., Burlington
 Egloff, William C., Mason City
 Ehnke, Bruce C., Iowa City
 Ehrenhaft, Johann L., Iowa City
 Eiel, John O., Osage
 Eiel, Merrill O., Osage
 Elkins, Higdon B., Iowa City
 Eller, Lancelot W., Kanawha
 Eller, William C., Waterloo
 Elliott, Olin A., Des Moines
 Ellis, Howard G., Des Moines
 Ellison, George M., Clinton
 Ellsworth, H. Charles, Cherokee
 Ellyson, Charles W., Waterloo
 Ellyson, Craig D., Waterloo
 Ely, Francis A., Des Moines (L.M.)
 Ely, Lawrence O., Iowa City
 Emanuel, Dennis G., Ottumwa
 Emerson, Edward L., Muscatine
 Emmons, Marcus B., Clinton
 Emmons, Margaret S., Iowa City
 Emmons, Richard O., Iowa City
 Engelmann, Andrew T., Sioux City
 Enna, Melchior D., Dumont
 Ennis, Harry H., Manchester
 Ensley, Bruce, Shell Rock (L.M.)
 Entringer, Albert J., Dubuque
 Entz, F. Harold, Waterloo
 Ergenbright, Willard V., Iowa City
 Erickson, Ernest D., Iowa City
 Ericsson, Martin G., Cedar Falls
 Erikson, Roland E., Davenport
 Erskine, Arthur W., Cedar Rapids
 Estes, Maurice, Cedar Rapids
 Evans, Harold J., Homewood, Ill.
 Evans, John E., Winterset
 Evans, John G., New Hartford (L.M.)
 Evans, William I., Sac City
 Evers, Alvin E., Pella
- Faber, Luke A., Dubuque
 Fail, Charles S., Adel
 Fain, William R., Des Moines
 Fallows, Howard D., Mason City (L.M.)
 Farnsworth, Harold E., Storm Lake
 Farnum, Earl P., Sibley (L.M.)
 Faust, John H., Manson
 Fee, Charles H., Denison
 Fee, Knight E., Toledo
 Feher, Karoly I., Clarinda
 Feightner, Robert L., Fort Madison
 Feldick, Harley G., Buffalo Center
 Fellows, Joseph G., Ames
 Felter, Allan G., Van Meter
 Fenton, Charles D., Bloomfield
 Fenton, Robert L., Centerville
 Ferguson, Paul, Lake City
 Ferguson, John W., Newton
 Ferlic, Rudolph J., Carroll
 Fesenmeyer, Charles R., Davenport
 Field, Charles A., Cresco
 Field, George A., Des Moines (L.M.)
 Field, Grace E. W., Juneau, Alaska
 Fields, Robert B., LaPorte City
 Fieseler, Walter R., Fort Dodge
 Fieselmann, George F., Spencer
 Fife, Robert R., Des Moines
 Files, Edward H., Cedar Rapids
 Fillenwarth, Floyd H., Charles City
 Finch, George H., Des Moines
 Fisch, Roman J., LeMars
 Fisher, June M., Iowa City
 Fishman, Harlow J., Holstein
 Fisk, Charlotte, Des Moines
 ★Fitch, Robert E., Des Moines
 Fitzgerald, Joseph D., Sloan
 Fitzpatrick, Dennis F., Iowa City (L.M.)
 Flannery, Francis E., Cedar Rapids
 Flater, Norman C., Floyd
 Fleischman, Abraham G., Des Moines
 Fleming, Edward F., Rockwell
 Flickinger, Roger R., Mason City
 Flocks, Rubin H., Iowa City
 Floersch, Eugene B., Council Bluffs
 Floyd, Mark L., Iowa City
 Flynn, Charles H., Clarinda
 Flynn, James R., Cedar Rapids
 Flynn, Robert E., Iowa City
 Foley, Fred C., Newell (L.M.)
 Foley, Walter E., Davenport
 Foley, Walter E., Jr., Davenport
 Forbes, Stephen A., Iowa City
 Fordyce, Frank W., Des Moines
 Foss, Robert H., Clinton
 Foster, Morgan J., Cedar Rapids
 Foster, Warren H., Clinton
- Foster, Wayne J., Cedar Rapids
 Foulk, Frank E., Des Moines
 Fourt, Arthur S., Melbourne
 Fowler, Charles C., Lovilia (L.M.)
 Fowler, Willis M., Iowa City
 Fox, Charles I., Pharr, Texas (L.M.)
 Fox, LeRoy J., Des Moines
 Fox, Ray A., Charles City
 Fox, Stephan, Ottumwa
 Franchere, Chetwynd M., Mason City
 Franey, William E., Cedar Rapids
 Frank, Louis J., Sioux City
 Frank, Owen L., Maquoketa
 Franklin, George W., Jefferson (L.M.)
 Franklin, John W., Iowa City
 Fraser, James B., Des Moines
 Fraser, John H., Monticello
 Frech, Raymond F., Newton
 Frederickson, Adolph R., Lansing
 ★Freligh, Clarence N., Waucoma
 French, Royal F., Marshalltown
 French, Valiant D., St. Joseph, Mo.
 Frenkel, Hans S., Clarinda
 Friday, Walter C., Burlington
 Frink, Lyle F., Spencer
 Fritchen, Arthur F., Decorah
 Fritz, Lafe H., Dubuque (L.M.)
 ★From, Paul, West Des Moines
 Frost, Lorraine H., Iowa City
 Fry, Gerald A., Vinton
 Frys, Russell N., Iowa City
 Fuerste, Frederick, Dubuque
 Fullerton, Oscar L., Redding (L.M.)
 Funk, David C., Iowa City
- Gaard, Rasmus R., Radcliffe
 Galinsky, Leon J., Des Moines
 Gallagher, John P., Oelwein
 ★Galvin, Robert J., Oelwein
 Gamet, Elmo E., Lamoni
 Gann, Edward R., Sigourney
 Gantz, A. Jay, Greenfield
 Ganzhorn, Harold L., Mapleton
 Gardner, Harold O., Waterloo
 Gardner, John R., Lisbon (L.M.)
 Gardner, Paul E., New Hampton (L.M.)
 Garland, John C., Marshalltown
 Garred, John L., Whiting
 Garred, William P., Dow City
 Garret, Morris M., Iowa City
 Garside, Arthur A., Davenport
 Garvy, Andrew C., Iowa City
 Gauger, John W., Early
 Gaukel, Leo A., Onawa
 Gault, James B., Creston
 Gearhart, George W., Springville (L.M.)
 Gee, Kenneth J., Shenandoah
 Gelman, Webster B., Iowa City
 George, Everett M., Des Moines
 George, Louis A., Remsen
 Gerard, Russell S., II., Waterloo
 Gerken, James F., Waterloo
 Gernsey, Merritt N., Long Beach, Calif. (L.M.)
 Gerstman, Herbert, Marion
 Gessford, Howard H., George
 Getty, Everett B., Primghar
 Gibbon, William H., Sioux City
 Gibbs, George M., Burlington
 Gibson, Chelsea D., Sac City
 Gibson, Douglas N., Des Moines
 Gibson, Paul E., Des Moines
 Gibson, Preston E., Davenport
 Giegerich, Walter F., Atlantic
 Giles, George C., Oakland (L.M.)
 Giles, W. Clark, Council Bluffs
 Gilfillan, Clarence D. N., Bloomfield
 Gilfillan, Earl E., Bloomfield
 Gilfillan, Edwin O., Bloomfield
 Gilfillan, Homer J., Jr., Bloomfield
 Gillett, Francis A., Oskaloosa
 Gillies, Carl L., Iowa City
 Gillmor, Benjamin F., Red Oak (L.M.)
 Gingles, Earl E., Onawa
 Gittins, Thomas R., Sioux City
 Gittler, Ludwig, Fairfield
 Givens, H. Frank, West Bend (L.M.)
 ★Gladstone, William S., Iowa City
 Glesne, Orvin G., Dubuque
 Glesne, Otto N., Fort Dodge
 Glomset, Daniel A., Des Moines
 Glomset, Daniel J., Des Moines
 Goad, Robley R., Muscatine
 Godbey, Maunis E., Iowa City
 Goddard, Chester R., Guttenburg
 Goebel, Clarence J., Sioux City
 Goen, Edwin J., Charles City
 Goenne, William C., Davenport
 Goenne, William C., Jr., Sioux City
 Goggin, John G., Ossian
 Goggin, Phoebe T., Ames
- Goldberg, Louie, Des Moines
 Goldstein, Morton S., Iowa City
 Goodenow, Sidney B., Colo
 Goodman, Lawrence O., Marshalltown
 Gordon, Arnold M., Des Moines
 Gorrell, Ralph L., Clarion
 Gosline, Harold I., Woodward
 Gottlieb, Jacques S., Iowa City
 Gottsch, Edwin J., Shenandoah
 Gould, George R., Conrad (L.M.)
 Gower, Walter E., Fort Dodge
 Graham, James W., Sioux City
 Grams, LaVerne F., Buffalo Center
 Gran, Albert G., Storm Lake
 Grandinetti, Arthur F., Oelwein
 Grant, John G., Ames
 Grau, Amandus H., Denison
 Graves, Charles C., Jr., Des Moines
 Graves, John, Dubuque
 Gray, Charles L., Iowa City
 Gray, Charles W., Ottumwa
 Gray, Henry A., Keokuk (L.M.)
 Gray, Ralph E., Eldora
 ★Greco, Donald J., Des Moines
 Greco, Louis R., Jr., Des Moines
 Greenblatt, Jerald, Cedar Rapids
 Greenhill, Solomon, Des Moines
 Greenleaf, John S., Iowa City
 Gregg, John B., Iowa City
 Greteman, Theodore J., Dubuque
 Griffin, Charles C., Dyersville
 Griffin, Clark C., Jr., Vinton (L.M.)
 Griffin, Frank L., Baldwin
 Griffin, John M., Des Moines (L.M.)
 Griffin, Robert E., Sheldon
 Griffith, William O., Council Bluffs
 Groben, Elmer S., Columbus Junction
 Grossman, Milton D., Sioux City
 Grossman, Raymond S., Marshalltown
 Grossman, Edward B., Orange City
 Grothaus, Dell L., Delta
 Grubb, Merrill W., Galva
 Guggenheim, Paul, Council Bluffs
 Gugle, Lloyd J., Ottumwa
 Gunn, Ross E., Boone
 Gurau, Henry H., Des Moines
 ★Gustafson, John E., Des Moines
 Gutch, Roy C., Chariton
 Gutch, Thomas E., Albia (L.M.)
 Gutenkauf, Charles H., Des Moines
- Hagen, Edward F., Decorah
 Haggard, David K., Harwarden
 Haines, Diedrich J., Des Moines
 Hale, Albert E., Mason City
 Hall, Bonnybel A., Maynard
 Hall, Cluley C., Maynard
 Hall, Forest F., Webster City
 Halloran, William H., Aubudon
 Halpin, Lawrence J., Cedar Rapids
 Hamilton, Benjamin C., Jefferson
 Hamilton, Cecil V., Garner
 ★Hamilton, Harriet S., Council Bluffs (L.M.)
 Hamilton, Henry E., Iowa City
 Hamilton, William K., Iowa City
 Hammer, Raymond W., Sioux City
 Hands, Sidney G., Davenport
 Hansell, William W., Des Moines
 Hansen, Fred A., Red Oak
 Hansen, Hans, Logan
 Hansen, Niels M., Des Moines
 Hansen, Robert R., Marshalltown
 Hansen, Russell R., Storm Lake
 Hanske, Edward A., Des Moines
 Hanson, Carl A., Waterloo
 Hanssmann, Irving J., Council Bluffs
 Hardin, John F., Bedford
 Hardin, Robert C., Iowa City
 Hardwig, Oswald C., Waverly
 Hardwig, Robert P., Waverly
 Harken, Conreid R., Osceola
 Harkness, Gordon F., Davenport (L.M.)
 Harman, Clarence, Burlington
 Harman, Dean W., Glenwood
 Harms, George E., Norway
 Harper, George E., Fort Madison
 Harper, Harry D., Fort Madison
 Harper, William H., Keokuk
 Harrington, Arlan F., Cedar Rapids
 Harrington, Raymond J., Sioux City
 Harris, Clinton E., Grinnell (L.M.)
 Harris, D. Dale, Marshalltown
 Harris, Grover W., Marshalltown
 Harris, Jack T., Luverne
 Harris, Ray R., Dubuque
 Hart, Paul V., Des Moines
 Hartley, Bryon D., Mount Pleasant
 Hartman, Frank T., Waterloo (L.M.)
 Hartman, Howard J., Waterloo
 Hartung, Walter, Davenport

- Harvey, Glen W., Cedar Rapids
 Harwood, Arthur M., Sigourney
 Haskell, Jack G., Reinbeck
 Hastings, Richard A., Ottumwa
 Haufe, W. David, Bloomfield
 Havlik, Al J., Tama
 Hawkins, Charles P., Clarion
 Hawkins, Robert E., Council Bluffs
 Hayden, Milford D., Marcus
 Hayes, William P., Cedar Rapids
 Hayne, Willard W., Des Moines
 Hazlet, Kenneth K., Dubuque
 Heady, Conda C. C., Bloomfield (L.M.)
 Heald, Clarence L., Sigourney (L.M.)
 Heathman, Frank E., Pocahontas (L.M.)
 Hecker, John T., Cedar Rapids
 Heeren, Ralph H., Des Moines
 *Heetland, Louis H., Sibley (L.M.)
 Heffernan, Chauncey E., Sioux City
 Hegg, Lester R., Rock Valley
 Hegstrom, George J., Des Moines
 Heilman, Elwood H., Ida Grove
 Heimann, Verne R., Sioux City
 Heinmiller, E. Clifford, Fort Madison
 Heise, Carl A., Jewell
 Heise, Harris R., Marshalltown
 Heise, Robert H., Story City
 Heitzman, Paul O., Cedar Rapids
 Heles, John B., Dubuque
 Henderson, Lauren J., Cedar Falls
 Henderson, Walker B., Oelwein
 Hendricks, Atlee B., Davenport
 Hendrickson, Alvin H., Sioux City
 Henkin, John H., Sioux City
 Hennes, Raphael J., Oxford
 Hennessey, John M., Manila
 Hennessy, Felix A., Calmar
 Hennessy, J. Donald, Council Bluffs
 Henningsen, Artemus B., Clinton
 Henry, Clyde A., Farson (L.M.)
 Henry, Hiram B., Des Moines
 Henslin, Merrill E., Cresco
 Henstorf, Harold R., Shenandoah
 Herman, John C., Boone
 Henry, Peter M., Prairie City
 Herrick, Thomas G., Gilmore City
 Herrick, Walter E., Ottumwa
 Herrmann, Christian H., Jr., Amana
 Hersey, Nelson L., Independence
 Hess, Ardo M., West Union
 Hess, John, Jr., Des Moines
 Heusinkveld, Henry J., Clinton
 Hickenlooper, Carl B., Winterset
 Hickerson, Luther C., Brooklyn
 Hickey, Robert C., Iowa City
 Hickman, Charles S., Centerville
 Hickman, Donald M., Indianola
 Hickner, Lawrence P., Council Bluffs
 Hicks, Edgar O., Clinton
 Hicks, Murwyn L., Iowa City
 Hicks, Wayland K., Sioux City
 Hight, William B., Des Moines (L.M.)
 Hildebrand, Howard H., Ames
 Hill, Christine E., Virginia Beach, Va. (L.M.)
 Hill, Don E., Clinton
 Hill, James W., Mount Ayr
 Hill, Julia F., Des Moines (L.M.)
 Hill, Lee F., Des Moines
 Hill, Richard W., Lake Mills
 Hills, Henry M., Lamoni (L.M.)
 Hirlman, Hal R., Cedar Rapids
 Hirst, Donald V., Council Bluffs
 Hobart, Francis W., Lake City
 Hodges, Robert E., Iowa City
 Hoeven, Edward B., Ottumwa
 Hoffman, Alfred A., Waterloo
 Hoffman, Paul M., Tipton
 Hoffman, Robert W., Des Moines
 Hofmann, William P., Davenport
 Hogenson, George B., Eagle Grove
 Hollander, Werner M., Davenport
 Hollis, Edward L., Marengo
 *Holman, Henry D., Mason City
 Holtey, Joseph W., Ossian
 Hombach, Walter P., Council Bluffs
 Hommel, Placido R. V., Elkader
 Honke, Edward M., Sioux City
 Hooper, Lester E., Indianola
 Hope, Justin M., Boston, Mass.
 Hopkins, David H., Glidden
 Hornaday, William L., Des Moines
 Hornberger, John R., Manning
 Horton, Robert R., Algona
 Hosford, Horace F., Burlington
 Houghton, Earl J., Bettendorf
 Houlahan, Jay E., Mason City
 Houlihan, Francis W., Ackley
 Houser, Blanche W., Cedar Rapids
 Houser, Cass T., Cedar Rapids
 Housholder, Harold A., Winthrop
 Howar, Bruce F., Webster City
 Howard, Dwayne E., Iowa City
 Howard, Lloyd G., Council Bluffs
 Howe, Gerald W., Marengo
 Howell, Elias B., Ottumwa
 Hoyt, John L., Creston
 Hruska, Glen J., Belmond
 Huber, Robert A., Charter Oak
 Huber, Robert H., Osage
 Hudek, Joseph W., Garnavillo
 Hudson, Jessie B., Sheffield
 Huffman, William C., Iowa City
 Hughes, Parker K., Des Moines
 Hughes, Robert O., Ottumwa
 Hull, Henry C., Jr., Washington (L.M.)
 Hulse, Roy A., Burlington
 Hungerford, Louis N., Jr., Keosauqua
 Hunt, Van W., Mason City
 Hunting, Ralph D., Cedar Rapids
 Huntley, Charles C., Avoca
 Hurevitz, Hyman M., Davenport
 Huston, Daniel F., Burlington
 *Huston, Herbert M., Ruthven (L.M.)
 Huston, Marshall D., Cedar Falls
 Huston, Paul E., Iowa City
 Hutch, John A., Vallejo, Calif.
 Hyatt, Charles N., Jr., Humeston
 Hyndman, Olan R., Davenport
 Ihle, Charles W., Cleghorn (L.M.)
 Ingham, Paul G., Mapleton
 Ingle, Newell G., Cedar Rapids
 Ingraham, David R., Sewal
 Irish, Thomas J., Forest City
 Irving, Noble W., West Des Moines
 Isenberg, Bertice A., Lohrville
 Isham, Robert B., Osage
 Iwen, George W., Iowa City
 Jack, Darwin B., Oelwein
 Jackson, James M., Jefferson
 Jackson, James S., Mount Pleasant
 Jackson, Robert L., Iowa City
 Jacobs, Carl A., Sioux City
 Jacoby, James A., Burlington
 Jacques, Lewis H., Lone Tree
 Jaenicke, Kurt, Clinton
 Jaggard, Robert S., Oelwein
 James, Audra D., Des Moines
 James, David W., Des Moines
 James, Lora D., Fairfield
 James, Peter E., Elk Horn (L.M.)
 Jameson, Robert E., Bettendorf
 Janse, Phillip V., Algona (L.M.)
 January, Lewis E., Iowa City
 Jardine, George A., New Virginia
 Jarvis, Harry D., Chariton
 Jeans, Philip C., Iowa City
 Jeffries, Milo E., Marshalltown
 Jeffries, Roy R., Waukon
 Jenkins, George A., Albion (L.M.)
 Jenkins, George D., Burlington
 Jenkins, Hanley F., Ogden
 Jenkinson, Harry R., Iowa City
 Jenks, Alonzo L., Jr., Des Moines
 Jensen, Arthur E., Humboldt
 *Jensen, Kenneth V., Newton
 Jensen, LeRoy E., Audubon
 Jerdee, Ingebrecht C., Clermont
 Jessup, Parke M., Muscatine
 Jirsa, Harold O., Cedar Rapids
 Johann, Albert E., Des Moines
 Johnson, Aaron Q., Sioux City
 Johnson, Albert P., Sigourney (L.M.)
 Johnson, Aldis A., Council Bluffs
 Johnson, Clarence A., Coon Rapids
 *Johnson, Francis N., Madrid
 Johnson, George M., Oberlin, Ohio (L.M.)
 Johnson, G. Raymond, Ottumwa
 Johnson, Harvey A., Atlantic
 Johnson, J. A. William, Marshalltown
 *Johnson, Merlin H., Iowa City
 Johnson, Merton A., Nevada
 Johnson, Norman M., Clarinda
 Johnson, Richard M., Denison
 Johnson, Robert J., Iowa Falls
 Johnson, Robert W., Clinton
 Johnson, Wendell A., Denver, Colo.
 Johnson, William A., Iowa Falls
 Johnston, C. Harlan, Des Moines
 Johnston, Florence D., Cedar Rapids
 Johnston, George B., Estherville
 Johnston, Harry L., Ames
 Johnston, Helen, Des Moines
 Johnston, Howard H., Hampton
 Johnston, Kenneth L., Oskaloosa
 Johnston, Theodore L., Iowa City
 Johnston, Wayne A., Dubuque
 *Johnstone, Alexander A., Keokuk
 Joiner, Bennett A., Iowa City
 Jones, Cecil C., Des Moines
 Jones, Charles L., Gilmore City
 Jones, Clare C., Spencer
 Jones, Harold W., Sioux City
 Jones, Harry J., Cedar Rapids
 Jones, Henry D., Schleswig
 Jones, Louis H., Wall Lake (L.M.)
 Jongewaard, Albert J., Jefferson
 Jongewaard, Jean, Jefferson
 Jongewaard, Robert E., Fort Dodge
 Joranson, Robert E., Council Bluffs
 Jordan, John W., Maquoketa
 Jowett, John R., Clinton
 Joyce, George T., Mason City
 Joynt, Albert J., Waterloo
 Joynt, Martin J., LeMars
 Joynt, Michael F., Marcus
 Judiesch, Kenneth J., Iowa City
 Jurgensen, William W., St. Louis, Mo.
 Kaack, Harry F., Jr., Clinton
 Kadel, Merl A., Laurens
 Kahler, Hugo V., Reinbeck
 Kane, Thomas E., Boone
 Kanealy, John F., Cedar Rapids
 Kapke, Franklin W., Mason City
 Kaplan, David D., Sioux City
 Kas, Thomas D., Sutherland
 Kasiske, Walter B., Keokuk
 Kassmeyer, John C., Dubuque
 Kast, Donald H., Des Moines
 Katherman, Charles A., Sioux City
 Katz, Irving A., Des Moines
 Katzmann, Frederick S., Des Moines
 Kaufman, Ernest L., Fort Atkinson (L.M.)
 Kearney, William W., Oakdale
 Keech, Roy K., Cedar Rapids
 Keen, Burlin E., Des Moines
 Keeney, George H., Mallard
 Keettel, William C., Jr., Iowa City
 Kehoe, Joseph L., Davenport
 *Keil, Philip G., Des Moines
 Keith, Charles W., Strawberry Point (L.M.)
 Keith, John J., Marion
 Kelberg, Melvin R., Sioux City
 Kelley, Edmund J., Des Moines
 Kelley, Lawrence E., Des Moines
 Kelly, Dennis H., Des Moines
 Kelly, John F., Sioux City
 Kelly, Joseph I., Burlington (L.M.)
 Kelsey, James E., West Des Moines
 Kenefick, John N., Algona
 Kennedy, Elizabeth S., Oelwein (L.M.)
 Kennedy, William C., Somers
 Kenney, Bernard E., Woodbine
 Keohen, Gerald F., Dubuque
 Kern, Lester C., Waverly (L.M.)
 Kerr, H. Dabney, Iowa City
 Kerr, Kriss M., Paton
 Kerr, W. Hawley, Hamburg
 Kreshner, Frank O., Clinton
 Kersten, Ernest M., Fort Dodge
 Kersten, Herbert H., Iowa City
 Kerwick, Joseph M., New Hampton
 Kestel, John L., Waterloo
 Ketner, Lester E., Oelwein
 Kettelkamp, Enoch G., Monona
 Keyser, Earl L., Marshalltown
 Keyser, Ralph E., Marshalltown
 Kieck, Ernest G., Cedar Rapids
 Kienzle, William K., Wellsburg
 Kiesau, Milton F., Postville
 Kiesling, Harry F., Lehigh
 Kilgore, Ben F., Des Moines
 Kimball, John E., West Liberty
 Kimberly, Lester W., Davenport
 Kinard, Kenneth H., Iowa City
 King, David H., Batavia (L.M.)
 King, Dean H., Spencer
 King, Oran W., Des Moines
 *King, Ray E., Des Moines
 King, Ross C., Clinton
 Kingsbury, Charles L., Keokuk
 Kingsbury, Kenneth R., Ottumwa
 Kirch, Walter A., Des Moines
 Kirkegaard, C. Smith, Estherville
 Kirkendall, Walter M., Iowa City
 Kitson, Walter W., Atlantic
 Klein, John L., Jr., Muscatine
 Klein, Robert F., Muscatine
 Kleinberg, Henry E., Des Moines
 Klemme, Herbert L., Belle Plaine
 Kline, Samuel, Sioux City
 Klocksiam, Harold L., Des Moines
 Klocksiam, Roy G., Rockwell City

- Klok, George J., Council Bluffs
 Kluever, Herman C., Fort Dodge
 Knight, Benjamin L., Cedar Rapids
 Knight, Edson C., Marshalltown
 Knight, Russell A., Rockford
 Knipfer, Robert L., Jesup
 Knoll, Albert H., Phoenix, Ariz.
 Knosp, Norman C., Belle Plaine
 Knott, Peirce D., Sioux City
 Knouf, Clare E., Lake City
 Knowles, Fred C., Fort Dodge
 Knudsen, Hubert K., Clinton
 Koch, George W., Anaheim, Calif.
 Kielling, Lloyd H., Newton
 Koester, John F., Davenport
 Koontz, Lyle W., Vinton
 Kopecky, Edward F., Cedar Rapids
 Kopsa, Walter J., Tipton
 Koptik, George, Jr., Garwin
 Korfmacher, Edwin S., Grinnell
 Kornder, Louis H., Davenport
 Korn, Horace M., Iowa City
 Kos, Clair M., Iowa City
 Koser, Donald C., Cherokee
 Kramer, Jack, Iowa City
 *Krause, Robert E., Ottumwa
 Krepelka, George E., Osage
 Krettek, John, Council Bluffs
 Kridelbaugh, William W., Iowa City
 Krigsten, Joe M., Sioux City
 Krigsten, William M., Sioux City
 Krueger, Norman L., Stuart
 Kruckenberg, William G., Cedar Rapids
 Kruml, Joseph G., Council Bluffs
 Kruse, Otto E., Tipton
 *Kruse, Rufus H., Conrad
 Kuehn, Willard G., Clarinda
 Kuehnle, Gustave R., Dubuque
 Kuhl, Augustus B., Davenport
 Kuhl, Augustus B., Jr., Davenport
 Kuhl, Robert H., Creston
 Kuhn, Leo C., Decorah
 Kuhn, Mark A. R., Waterloo
 Kuker, Leo H., Carroll
 Kulp, Raymond R., Davenport
 *Kurtz, Robert J., Waterloo
 Kurtz, Cecelia M., Cedar Rapids
 Kyle, William S., Washington
- Labagh, Nicholas W., Mystic
 *LaForce, Edward F., Burlington (L.M.)
 Lagen, Mansfield S., Dubuque
 Lagoni, Ralph P., Eldridge
 Laidley, Wallace G., Ogden
 Lamb, Frederick H., Davenport
 Lamb, Harry H., Davenport
 Lambrecht, Paul, Des Moines
 Lande, Jacob N., Sioux City
 *Landis, Sylvanus N., Des Moines
 Langford, William R., Cedar Rapids
 Langworthy, Henry G., Dubuque (L.M.)
 Lannon, James W., Mason City
 Larimer, Robert N., Sioux City
 Larsen, Elmer A., Centerville
 Larsen, Frank S., Fort Dodge
 Larsen, Harold T., Fort Dodge
 Larsen, Lawrence V., Harlan
 Larson, Andrew G., Dickens
 Larson, Carroll B., Iowa City
 Larson, Erling, Jr., Des Moines
 Larson, Gerald E., Elk Horn
 Larson, Lester E., Decorah
 Larson, Marvin O., Hawarden
 LaRue, Jack L., Sioux City
 Latchem, Charles W., Des Moines
 LaTona, Joseph H., Council Bluffs
 Laube, Paul J., Dubuque
 Laughlin, Ralph M., Cedar Rapids
 *Lauder, Frank T., San Diego, Calif. (L.M.)
 Lavender, John G., George
 Lawlor, Jeremiah F., Cherokee
 Lawrence, Joseph W., Dubuque
 Layton, Jack M., Iowa City
 Lease, Nimrod J., Crawfordsville (L.M.)
 Lederman, Joseph, Oskaloosa
 Lee, Wayne R., Burlington
 Leehey, Paul J., Independence
 Leffert, Frank B., Centerville
 Lehman, Emery W., Des Moines
 Lehr, Sylvan M., Cedar Rapids
 Leighton, Lewis L., Fort Dodge
- Leinbach, Samuel P., Belmond
 Leinfelder, Pladius J., Iowa City
 Leiter, Herbert C., Sioux City
 Lekwa, Alfred H., Story City
 Lemon, Kenneth M., Oskaloosa
 Lenaghan, Robert T., Clinton
 Lenzmeier, Albert J., Davenport
 Leonard, Frederick S., Dubuque
 Leonard, Thurman K., Madrid
 LePoidevin, Jean S., Waterloo
 Levin, Harry M., Waterloo
 Levy, James W., Sioux City
 Lewis, Bernard I., Iowa City
 Lewis, E. Faye C., Webster City
 Lewis, William B., Webster City
 Lichter, Theodore W., Edgewood
 Lierle, Dean M., Iowa City
 Lierman, Clifford E., Lake View
 Liken, John A., Creston
 Limbert, Edwin M., Council Bluffs
 Limburg, J. Irwin, Jefferson
 Limburg, John I., Jr., Jefferson
 Lincoln, Simon E., Des Moines (L.M.)
 Lindholm, Hugo A., Armstrong
 Lindley, Ellsworth L., Cedar Rapids
 Liska, Edward J., Ute
 Lister, Kenneth E., Ottumwa
 Littig, Elmer H., Mechanicsville
 Little, Luther W., Atkins
 Lloyd, John M., Washington
 Locher, Robert C., Cedar Rapids
 Lock, Arthur L., Rock Valley
 Lockhart, Harold A., Cedar Rapids
 Lodwick, Gwilym S., Jr., Iowa City
 Loeck, John F., Independence
 Loes, Anthony M., Dubuque
 Lohman, Frederick H., Waterloo
 Lohmann, Carl J., Burlington
 Lohr, Phillips E., Churdan
 Long, Draper L., Mason City
 Long, Llewelyn L., Atlantic
 Longworth, Wallace H., Boone
 Loomis, Frederic G., Waterloo
 Lorfeld, Gerhard W., Davenport
 Losasso, David, Iowa City
 Losh, Clifford W., Des Moines
 Losh, Clifford W., Jr., Des Moines
 Love, Francis L., Iowa City (L.M.)
 Lovejoy, E. Parish, Des Moines
 Lovelady, Ralph, Sidney
 Loving, Luther W., Estherville
 Lowry, Charles F., Council Bluffs
 Loxterkamp, Edward O., Rolfe
 Lueck, Arthur G., Des Moines
 Luehrsmann, Bernard C., Dyersville
 Luginbuhl, Christian B., Des Moines
 Luke, Edward, Coin
 Lundvick, Arthur W., Gowrie (L.M.)
 Luse, Ralph F., Clinton
 Lutton, John D., Sioux City
 Lyman, Frank L., Jr., Fort Madison
 Lynn, Clarence E., Dubuque
 Lyons, John C., Davenport
 Lyons, Mary L., Des Moines
- MacGregor, John K., Mason City
 MacLeod, Hugh G., Greene
 McAllister, James, Odebolt
 McAllister, William G., Ida Grove
 McBride, James T., Des Moines (L.M.)
 McBride, Robert H., Sioux City
 McCaffrey, Eugene H., Des Moines
 McCall, John H., Allerton
 McCarthy, Frank D., Sioux City
 McCartney, William H., Des Moines
 McClean, Earl D., Des Moines
 McClellan, John W., Onawa
 McClintock, John T., Iowa City (L.M.)
 *McClure, Ernest C., Bussey (L.M.)
 McClure, Gail A., Ames
 McClurg, Frank H., Fairfield
 McConkie, Edwin B., Cedar Rapids
 McConkie, Willis L., Carroll
 McConnell, Robert W., Davenport
 McCoy, Harold J., Des Moines
 McCoy, John T., Cedar Falls
 *McCrary, W. Ashton, Lake City
 McCreedy, Murry L., Washington
 McCreight, George C., Des Moines
 McCuiston, Harry M., Sioux City
 McCullough, John H., Waukon
 McDonald, Don J., Cedar Rapids
 McDonald, James E., Mason City (L.M.)
 McDowall, Gilbert T., Gladbrook (L.M.)
 McDowell, William O., Grundy Center (L.M.)
 McFadden, F. Ross, Davenport
 McFarland, Guy E., Ames
- McFarland, Guy E., Jr., Ames
 McFarland, Julian E., Ames
 McGahey, William B., Webster City
 McGarvey, Cornelius J., Des Moines
 McGill, Arthur A., Danbury
 McGilvra, Arthur L., Sioux Center
 McGinnis, George C., Fort Madison
 McGrane, Merle J., New Hampton
 *McCready, Joseph H., Independence (L.M.)
 McGuire, Kenneth L., Keota
 McGuire, Kirk C., Iowa City
 McGuire, Roy A., Fairfield
 McHugh, Charles P., Sioux City
 McIllece, Raymond C., Fort Madison
 McIntosh, Philip D., Ottumwa
 McIntyre, Caryl C., Waterloo
 McKay, Richard V., Dubuque
 McKean, Frank F., Allison
 McKitterick, John C., Burlington
 McLaughlin, Charles W., Washington (L.M.)
 McMahon, Arthur E., Des Moines
 McMahon, Thomas, Garner (L.M.)
 McMeans, Thomas W., Davenport
 McMillan, George J., Fort Madison
 McMillan, James T., III, Des Moines
 McMillen, Arch S., Fort Dodge
 McMurray, Edward A., Newton
 McNamara, Robert J., Dubuque
 McNamee, Jesse H., Des Moines
 *McPherrin, Henry I., Des Moines (L.M.)
 McQuiston, J. Stuart, Cedar Rapids
 McTaggart, William B., Fort Dodge
 McVay, Melvin J., Lake City
 Mackin, M. Charles, Des Moines (L.M.)
 Macrae, James G., Creston (L.M.)
 Magaret, Ernest C., Glenwood
 Magdsick, Carl C., Charles City
 Magee, Emery E., Waterloo
 Mahoney, James D., Council Bluffs
 Mailliard, Robert E., Storm Lake
 Maixner, William D., Ottumwa
 Maland, Donald O., Cresco
 Maloy, Wayland H., Shenandoah
 *Mangan, J. Thomas, Forest City
 Manning, Ephraim L., Davenport
 Mantz, Russell L., Cedar Rapids (L.M.)
 Maplethorpe, Charles W., Toledo
 Maplethorpe, Charles W., Jr., Toledo
 Marble, Edwin J., Marshalltown
 Marble, Pearl L., Liscomb (L.M.)
 Marble, Willard P., Marshalltown
 Margulies, Harold, Des Moines
 Marinos, Harry G., Mason City
 Maris, Cornelius, Sanborn
 Maris, Gerrit, Hull
 Maris, William, Sioux Center
 Mark, Edward M., Clarksville
 Mark, Milton S., Des Moines
 Marker, John I., Davenport
 Marme, George W., DeWitt
 Marquis, Fred M., Waterloo
 Marquis, George S., Des Moines
 Marsh, Frederick E., Council Bluffs
 Marsh, Frederick E., Jr., Council Bluffs
 Marshall, Jean A., Solon
 Martin, James W., Holstein
 Martin, Josef R., Carroll
 Martin, Lee R., Council Bluffs
 Martin, Ronald J., Sioux City
 Martin, Sidney D., Carroll (L.M.)
 Mason, Robert P., Des Moines
 Mason, Stella M., Mason City (L.M.)
 Mast, Truman M., Washington
 Mater, Dwight A., Knoxville
 Mater, Roy V., Knoxville
 Matheson, John H., Des Moines
 Mathiasen, Aileen E., Council Bluffs
 Mathiasen, Emmett B., Council Bluffs
 Mathiasen, Henning W., Council Bluffs
 Mathiasen, John W., Council Bluffs
 Matthey, Carl H., Davenport
 Matthey, Walter A., Davenport
 Mattice, Lloyd H., Sheldon
 Mattice, Roger J., Sioux Rapids
 Mattison, George, Akron
 Mauritz, Emory L., Des Moines
 Maxwell, Charles T., Sioux City
 Maxwell, John, What Cheer
 Maxwell, John R., Iowa City
 May, George A., Des Moines
 May, Robert B., Knoxville
 May, Samuel C., Iowa City
 Mazur, Theodore T., Des Moines

- Mead, Frank N., Cedar Falls (L.M.)
 Meffert, Clyde B., Cedar Rapids
 Megorden, William H., Mount Pleasant
 Mellen, Robert C., Clinton
 Meredith, Loren K., Des Moines
 Merrillat, Herbert C., Des Moines
 Merkel, Arthur E., Des Moines
 *Merkel, Bryon M., Des Moines
 Merritt, Arthur M., Des Moines
 Merritt, F. Benjamin, Dubuque
 Merselis, Harold K., Audubon
 Mershon, Clinton E., Adel (L.M.)
 Meyer, Paul G., Manchester
 Meyers, Frank W., Dubuque (L.M.)
 Meyers, Paul T., Bloomfield
 Michener, Robert B., Iowa City
 Middleton, William H., Central City
 Mighell, Scott J., Des Moines
 Mikelson, Clarence J., Waterloo
 Miller, Brownlow B., Tabor
 Miller, Chester I., Iowa City
 Miller, Donald F., Williamsburg
 Miller, Enos D., Wellman
 Miller, Howard L., Cedar Rapids
 Miller, Jay R., Wellman
 Miller, Lawrence A., North English
 Miller, Robert C., Waterloo
 Miller, Temple M., Muscatine
 Miller, Wilbur R., Iowa City
 Millice, Glenn S., Battle Creek
 Mills, Frank W., Ottumwa (L.M.)
 Miltner, Leo J., Davenport
 Minassian, Harootune A., Des Moines (L.M.)
 Minassian, Thaddeus A., Des Moines
 Miner, James B., Jr., Charles City
 Minkel, Roger M., Fort Dodge
 Mirick, Donald F., Clinton
 Mitchell, Claire H., Cincinnati
 *Mitchell, Richard C., Iowa City
 Moe, Ralph H., Griswold
 Moen, Stanley T., Cedar Rapids
 Moerkel, Robert F., Burlington
 Moershel, Henry G., Homestead
 Moershel, William J., Cedar Rapids
 Mohney, Glenn E., Iowa City
 *Mol, Henry L., Grundy Center
 Monnig, Philip J., Des Moines
 *Montgomery, Albert E., Jefferson
 Montgomery, George E., Ames
 Montgomery, Guy E., Washington
 Montz, Fred, Lowden
 Moon, Barclay J., Cedar Rapids
 Mooney, James C., Des Moines
 Moore, Carlyle C., Emmetsburg
 Moore, Edson E., Fort Dodge
 Moore, Harold H., Ottumwa
 Moore, Harris C., Clearfield
 Moore, Jesse C., Eldon
 Moore, Pauline V., Iowa City
 Moore, Richard M., St. Louis, Mo.
 Moorehead, Harold B., Underwood
 Mordaunt, Richard H., Nevada
 Morgan, Harold W., Mason City
 Morgan, Paul W., Mason City
 Morgan, Rex L., Sioux City
 Morgenthaler, Otis P., Templeton (L.M.)
 Moriarty, John F., Atlantic
 Moriarty, Lauren R., Kansas City, Kan.
 Morris, Lucien E., Iowa City
 Morris, Zenella E. N., Stockport (L.M.)
 Morrison, John R., Carroll
 Morrison, John W., Alta
 Morrison, Robert E., Waterloo
 Morrison, Roland B., Carroll
 Morrison, Wesley J., Cedar Rapids (L.M.)
 Morrissey, George E., Davenport
 Morrissey, William J., Des Moines
 Morse, Charles H., Eagle Grove (L.M.)
 Morton, Elmer E., Des Moines (L.M.)
 Morton, Matthew T., Estherville
 Mosher, Martin L., Jr., Iowa City
 Mott, William H., Farmington (L.M.)
 Mountain, George E., Des Moines
 Moyers, Jack, Iowa City
 Mugan, Robert C., Sioux City
 *Mulder, Lambertus, Sioux Center
 Mullman, Arnold J., Perry
 Mulsow, Frederick W., Cedar Rapids
 Munger, Elbert E., Spencer
 Munns, Richard E., Alden
 Murchison, Kenneth, Sidney (L.M.)
 Murphey, Arlo L., Fredericksburg
 Murphy, Cornelius B., Alton
 Murphy, George C., Waterloo
 Murphy, James H., Des Moines
 Murray, Frederick G., Cedar Rapids (L.M.)
 Murray, Jonathan H., Burlington
 Murtaugh, James E., New Hampton
 Myerly, William H., Des Moines
 Myers, Edward M., Dallas, Texas (L.M.)
 Myers, Judson W., Postville
 Myers, Kermit W., Sheldon
 Myers, Robert W., Monticello
 Nash, Edwin A., Ottumwa
 *Neagle, Paul E., Dubuque
 Neal, Emma J., Cedar Rapids (L.M.)
 Nederhiser, Morgan I., Cascade
 Needles, Roscoe M., Atlantic
 Neglia, Fortunato J., Maxwell
 Nelken, Leonard, Clinton
 Nelken, Viola D., Columbia, S. C.
 Nelson, Arnold L., Des Moines
 Nelson, Frederick L., Ottumwa
 Nelson, F. Lawrence, Jr., Ottumwa
 Nelson, Harry E., Dayton (L.M.)
 Nelson, Leo C., Jefferson
 Nelson, Paul O., Emmetsburg
 Nelson, Robert J., Clinton
 Nemec, Joseph J., Cedar Rapids
 Nemmers, Gerald J., Washington
 Netolicky, Robert Y., Cedar Rapids
 Neufeld, Robert J., Davenport
 Neuzil, William J., Cedar Rapids
 Newland, Don H., Belle Plaine
 Newman, Robert W., Iowa City
 Niblock, George F., Denver, Colo. (L.M.)
 Nicholson, Clyde G., Des Moines
 *Nicholson, Richard W., Paton
 Nicoll, Charles A., Panora
 Nicoll, David T., Mitchellville (L.M.)
 Nielsen, Arnold T., Ankeny
 Nielsen, Glen E., Des Moines
 Nielsen, Rudolph F., Cedar Falls
 Nielson, Arthur L., Council Bluffs
 Niemann, Theodore V., Brooklyn
 Nierling, Paul A., Cresco
 Noble, Nelle S., Des Moines (L.M.)
 Noble, Rusl P., Alta
 Noe, Carl A., Cedar Rapids
 Noe, Charles F., Amana (L.M.)
 Nolan, John C., Corning
 Nomland, Ruben, Iowa City
 Noonan, James J., Marshalltown
 Nord, Donald H., Cambridge
 *Nordin, Charles A., Des Moines
 Norment, John E., Clinton
 Norris, Lewis D., Newton
 North, Frank R., Winfield
 Norton, Alva C., Rockwell City (L.M.)
 Noun, Louis J., Des Moines
 Noun, Maurice H., Des Moines
 Null, Frederick F., Hawarden
 Nyquist, David M., Eldora
 Ober, Frank G., Burlington
 O'Brien, Lyl J., Fort Dodge
 O'Brien, Stephen A., Mason City
 O'Connor, Edwin C., New Hampton
 *Odell, James E., Iowa City
 O'Donnell, Joseph E., Clinton
 O'Donoghue, Archibald F., Sioux City
 O'Donoghue, James H., Storm Lake
 Oelrich, Carl D., Sioux Center
 *Oesterlin, Ernst J., Mount Pleasant
 Oggel, Herman D., Maurice (L.M.)
 O'Keefe, Paul T., Waterloo
 Okerlin, Oscar W., Russell (L.M.)
 O'Leary, Francis B., Sibley
 Olsen, Martin I., Des Moines
 Olsen, Max E., Minden
 Olsen, Ranald E., Milton
 Olson, Evelyn M., Winterset
 Olson, Nels, Lake Mills
 Olson, Russell L., Northwood
 O'Neal, Harold E., Tipton
 Orton, Lawrence C., Mason City
 Osborn, Clarence R., Dexter
 Osincup, Paul W., Sioux City
 Osten, Burdette H., Northwood
 O'Toole, Laurence C., LeMars
 O'Toole, Roger L., Waterloo
 Ottilie, Donald J., Oelwein
 Otto, Paul C., Fort Dodge
 Owen, William E., St. Ansgar
 Pace, Arthur A., Toledo (L.M.)
 Page, Elizabeth B., Phoenix, Ariz.
 Page, Wesley M., Montezuma
 Pagelsen, Otto H., Des Moines (L.M.)
 Pahlas, Henry M., Dubuque
 Paige, Ralph T., LaPorte City
 Painter, J. Carl, Dubuque
 Palmer, Carson W., Guttenberg
 Palmer, Howard C., Nichols
 Palumbo, Louis T., Des Moines
 Paragas, Modesto R., Creston
 Parish, John R., Grinnell
 Parke, John, Cedar Rapids
 Parker, Edward S., Ida Grove (L.M.)
 Parker, Loran F., Iowa Falls
 Parker, Robert L., Des Moines
 Parks, Claude O., Iowa City
 Parry, Roy E., Scranton
 Parsons, John C., Des Moines
 Paschal, George A., Webster City
 Pascoe, Paul L., Carroll
 Patterson, John N., Burlington (L.M.)
 Patterson, Roy A., Webster City
 Paul, John D., Anamosa
 Paul, Richard E., Des Moines
 Paul, William D., Iowa City
 Paulsen, Herbert B., Harris
 Paulus, Edward W., Iowa City
 Paulus, James W., Dubuque
 Payne, Roswell H., Exira
 Pearlman, Leo R., Des Moines
 Pearson, George J., Burlington
 Peart, John C., Davenport
 Peasley, Harold R., Des Moines
 Peck, Raymond E., Davenport
 Pedersen, Arthur M., Council Bluffs
 Peggs, Harold J., Creston
 Peisen, Conan J., Des Moines
 Pelz, Werner P., Charles City
 Penly, Don H., Cedar Falls
 Penn, Eugene C., West Des Moines
 Perel, Ada R., Iowa City
 Perkins, Franklin C., Hedrick
 Perkins, Rollin M., II, Davenport
 Perley, Arthur E., Waterloo
 Perman, Harvey H., Forest City
 Perrin, H. Joyce, Des Moines
 Peschau, Waudo E., Cedar Rapids
 Pester, George H., Council Bluffs
 Petersen, Donal C., Burlington
 Petersen, Emil C., Atlantic
 Petersen, Millard T., Atlantic
 Petersen, Robert E., Dubuque
 Petersen, Vernon W., Clinton
 Peterson, Elroy R., Ames
 Peterson, Evan A., Burlington
 Peterson, Frank R., Cedar Rapids
 Peterson, John C., Jr., Hartley
 Peterson, Loren C., Holstein
 Peterson, Ray W., Clear Lake
 Pfaff, Robert A., Dubuque
 Pfeiffer, Ernst, Hartley
 Pfeiffer, Harry E., Cedar Rapids
 Pfohl, Anthony C., Dubuque
 Phelan, Mary P., Altoona
 Phelps, Charles R., Ottumwa
 Phelps, Gardner D., Waterloo
 Phelps, Richard E., New Sharon
 Phetepplace, Willard S., Davenport
 Phifer, Robert L., Davenport
 Phillips, Albin B., Clear Lake (L.M.)
 Phillips, Allan B., Des Moines
 Phillips, Clarence P., Muscatine
 Phillips, Walter B., Montezuma
 Piburn, Marvin F., Des Moines
 Pickenbrock, Frank F., Dubuque
 Piercy, Kenneth C., Ames
 Pierson, Lawrence E., Sioux City
 Pitcher, Arlo L., Belmond
 Pitluck, Harry L., Laurens
 Plager, Vernon H., Waterloo
 Plankers, Arthur G., Dubuque
 Plass, Everett D., Saranac Lake, N. Y. (L.M.)
 Poepsel, Frank L., West Point
 Ponseti, Ignacio V., Iowa City
 Poore, Samuel D., Villisca
 Porter, Charles E., Redfield
 Porter, Richard C., Des Moines
 Porter, Robert J., Des Moines
 Porter, S. Dale, Grinnell
 Posner, Edward R., Des Moines (L.M.)
 Posner, Edward R., Jr., Des Moines
 Powell, Adrian R., Elkader
 Powell, Burke, Albia (L.M.)
 Powell, Lester D., Des Moines
 Powell, Robert A., Shenandoah
 Powers, George H., Shenandoah
 Powers, Henry R., Emmetsburg
 Powers, Ivan R., Waterloo
 Powers, John L., Estherville
 Preece, Wade O., Waterloo
 Prendergast, Louis J., Iowa City
 Prentice, George L., Bloomfield
 Prescott, Kenneth H., Storm Lake
 Presnell, William H., Charlotte
 Prettyman, Oscar R., Manson
 Prewitt, Leland H., Ottumwa
 Price, Alfred S., Des Moines

Priessman, Frank A., Keokuk
 Priestley, Joseph B., Des Moines
 Proctor, Rothwell D., Cedar Rapids
 Province, William, Jr., Dubuque
 Ptacek, Joseph L., Webster City
 Pugh, Philip F. H., Sioux City
 Pumphrey, Loira C., Keokuk
 Puntenney, Andrew W., Boone
 Purdy, William O., Des Moines
 Putnam, Chester L., Des Moines

Quinn, Francis P., Dubuque

Radcliffe, Christian E., Iowa City
 Rahn, Gordon E., Mount Vernon
 Ralston, Furman P., Knoxville
 Rambo, Cyrus C., Creston
 Rambo, David T., Ottumwa (L.M.)
 Ramsdell, Stuart T., Clarinda
 Randall, John H., Iowa City
 Randall, Ross G., Waterloo
 Randall, William L., Hampton
 Rankin, Isom A., Iowa City
 Rankin, John R., Keokuk
 Rankin, William, Keokuk
 Ransom, Harry E., Des Moines
 Rater, David L., Ottumwa
 Rathe, Herbert W., Waverly
 Rausch, Gerald R., Sioux City
 Readinger, Harry M., New London
 Redfield, Earl L., Des Moines
 Redmond, James J., Cedar Rapids
 Redmond, Thomas M., Monticello
 Reed, Andrew I., Estherville
 *Reed, Guy P., Davis City (L.M.)
 Reed, Paul A., Iowa City (L.M.)
 Reed, Purl E., Council Bluffs
 Reed, Robert J., Des Moines
 Reeder, James E., Sioux City
 Reeder, James E., Jr., Sioux City
 Reedholm, Edwin A., Grundy Center
 Reimers, Robert S., Fort Madison
 Reinecke, Edward L., Dubuque (L.M.)
 Rembolt, Raymond R., Iowa City
 Rence, William G., Sigourney
 Render, Norman D., Clarinda
 Reuber, Roy N., Mason City
 Reuling, Frank H., Waterloo
 Reynolds, Albert C., Des Moines (L.M.)
 Rhode, Marvin C., Iowa City
 Rhodes, John M., Pocahontas
 Rice, Floyd W., Des Moines
 Richardson, Leon F., Collins (L.M.)
 Richey, Granville L., Centerville
 Richmond, Arthur C., Fort Madison
 Richmond, Frank R., Fort Madison
 Richmond, Paul C., New Hampton
 Richter, Harold J., Albia
 Ridenour, Joseph E., Waterloo (L.M.)
 Rider, Harmon E., Sioux City
 Riegelman, Ralph H., Des Moines
 Rieniets, John H., Cedar Rapids
 Riggert, Leonard O., Clinton
 Rimel, George W., Bedford
 Rindskopf, Wallace, Des Moines
 Ringena, Engelke J., Brooklyn
 Rinker, George E., Oto (L.M.)
 Ritter, Eugene F., Centerville
 Rizzo, Frank M., Sibley
 Robb, James B., Chariton
 Robb, William J., Cedar Rapids
 Roberts, C. Ronald, Dysart
 Roberts, F. LeRoy, Corona, Calif.
 Roberts, Francis M., Knoxville (L.M.)
 Roberts, Justus B., Ottumwa
 Robertson, Treadwell A., West Liberty
 Robinson, George L., Waterloo
 Robinson, Robert E., Waverly (L.M.)
 Robinson, Van C., Des Moines
 Rock, John E., Davenport
 Rock, J. Gordon, Davenport
 Rockwell, Maryelda, Clinton
 Rodawig, Don F., Spirit Lake
 Roddy, Harold J., Mason City
 Rodgers, Lewis A., Oskaloosa (L.M.)
 Roe, Cullen B., Afton
 Rogers, Claude B., Earlville (L.M.)
 Rogers, Edward A., Anamosa
 Rohlf, Edward L., Jr., Waterloo
 Rohwer, Roland T., Sioux City
 Rolfs, Floyd O., Parkersburg
 Rolfs, Fred A., Aplington
 Romine, John H., Webster City (L.M.)
 Rominger, Clark R., Waukon
 Rominger, Clark W., Waukon
 Roost, Frederick H., Sioux City (L.M.)
 Rose, Alvin A., Story City
 Rose, Joseph E., Grundy Center
 Rosebrook, Lee E., Ames
 Rosendorff, Charlotte, Bettendorf
 Ross, Arthur J., Jr., Perry

Rost, Glenn S., Lake City
 Rotkow, Maurice J., Des Moines
 Rowat, Harry L., Des Moines (L.M.)
 Rowe, John J., Cedar Falls
 Rowley, Robert D., Burlington
 Rowley, William G., Sioux City
 Royal, Lester A., West Liberty
 Royal, Malcolm A., Des Moines
 ★Ruble, Robert L., Nevada
 Rudersdorf, Howard E., Sioux City
 Rugtiv, George M., Des Moines
 Ruml, Wentzle, Cedar Rapids (L.M.)
 Russ, Ross P., Dubuque
 Russ, Jesse E., Rake
 Russell, Elwood P., Burlington
 Russell, John, Yuma, Ariz. (L.M.)
 Russell, Ralph E., Waterloo
 Rust, Emery A., Webb
 Ruth, Verl A., Des Moines
 Ryan, Allen J., Harlan
 Ryan, Charles M., Sioux City
 Ryan, Cyril J., Creston
 Ryan, Granville N., Franklin, Mich (L.M.)
 Ryan, Martin J., Sioux City
 Ryan, Robert A., Fairfield

Saar, Jesse L., Donnellson
 Saar, Jesse L., Jr., Burlington
 Saar, John W., Keokuk
 Sabs, Adolph L., Iowa City
 St. Onge, Joseph A., Sioux City
 Samberg, Harry H., Des Moines
 Sampson, Carl E., Creston
 Sampson, Frank E., Creston (L.M.)
 Sams, Joseph H., Clarion (L.M.)
 Sanders, George E., Des Moines (L.M.)
 Sanders, Matthew G., Fort Dodge
 Sanders, William E., Pasadena, Calif. (L.M.)
 Sands, Sidney L., Des Moines
 Sarff, Floyd G., Logan
 Sartor, Guido J., Mason City
 Sartor, Pierre, Titonka (L.M.)
 Sattler, Dwight G., Kalona
 Sauer, Harold E., Marshalltown
 ★Saunders, Robert J., Colfax
 Sawyer, Grace M., Woodward
 Sawyer, Prince E., Sioux City (L.M.)
 Sayre, Ivan K., St. Charles
 Scales, E. Thomas, Des Moines
 Scanlan, E. Thomas, Des Moines
 Scanlan, George C., Omaha, Nebr. (L.M.)
 Scanlon, George H., Iowa City
 Schaefer, Paul H., Urbana, Ill. (L.M.)
 Schaeferle, Lawrence G., Gladbrook
 Schaeferle, Martin J., Eagle Grove
 Schafer, Leander H., DeWitt
 Schanche, Arthur N., Ames
 Scharle, Theodore, Dubuque
 Scharnweber, Henry C., Boone
 Scheffel, Melvin L., Malvern
 Scheldrup, Eugene W., Iowa City
 Schiff, Joseph, Spokane, Wash.
 Schill, Austin E., Des Moines
 Schissel, Donald, Des Moines
 Schlaser, Verne L., Des Moines
 Schlichtemeier, Ellis O., Peterson
 Schmitz, Henry C., Des Moines
 Schnug, George E., Dows
 Schoonover, Richard, Bloomfield
 Schrier, Harold L., Fayette
 Schrock, Christian E., Waverly
 Schroeder, Adrain J., Marshalltown
 Schroeder, Frank N., Ryan
 Schroeder, Leslie V., Walcott
 Schropp, Rutledge C., Des Moines
 Schrup, Joseph H., Dubuque (L.M.)
 Schueller, Charles J., Dubuque
 Schultz, Ivan T., Humboldt
 ★Schultz, Marvin H., Waterloo
 Schultz, Nelle E. T., Humboldt
 Schutter, John M., Algona
 Schwartz, John W., Sioux City
 Schwidde, Jess T., Iowa City
 Scott, Phillip A., Spirit Lake
 Scott, Sophie H., Des Moines (L.M.)
 Seaman, Charles L., Cherokee
 Sedlacek, Leo B., Cedar Rapids
 Seeborn, Paul M., Iowa City
 Seely, Harmon D., Cherokee
 Seibert, Cecil W., Waterloo
 Seidler, William A., Jr., Jamaica
 Seiler, Raymond A., Blairtown
 Sellards, Joseph W., Clarinda (L.M.)
 Sellers, Harry W., Ottumwa
 Sells, Benjamin B., Independence
 Selman, Ralph J., Ottumwa
 Selo, Rudolph A., Council Bluffs
 Senska, Frank E., Brandon

Senty, Elmer G., Davenport
 Severson, George J., Slater
 Severson, Wayne L., Slater
 Shafer, Arthur W., Davenport
 Shafer, Lee E., Davenport
 Shane, Robert S., Pilot Mound
 Shannon, Edwin R., Waterloo (L.M.)
 Sharpe, Donald C., Dubuque
 Shaw, Albert E., Des Moines
 Shaw, David F., Britt
 Shaw, Robert E., Waverly
 Shea, Thomas E., Storm Lake
 Sheeler, Ivan H., Des Moines
 Sheets, Raymond F., Iowa City
 Shelton, Charles D., Bloomfield (L.M.)
 Shepherd, Loyd K., Des Moines
 Sherman, Richard C., Farley
 Shiffer, H. Kirby, Des Moines
 Shine, Dan W., Oelwein
 Shonka, Thomas E., Malvern
 Shope, Charles D., Greenfield
 Shorey, Joseph R., Davenport
 Shrader, John C., Fort Dodge
 Shuldberg, Arthur, Des Moines
 Shulkin, Sam H., Sioux City
 Shulman, Herbert, Waterloo
 Shurts, John J., Eldora
 Sibley, Edward H., Sioux City
 Simmons, Ralph R., Des Moines
 ★Simonsen, Marie N., Sioux City
 Sindelar, Joseph B., Baltimore, Md.
 Singer, John R., Newton
 Singer, Siegmund F., Ottumwa
 Sinn, Irvin J., Williamsburg
 Sinning, Augustus, Iowa City (L.M.)
 Sinning, John E., Marshalltown
 Sinton, David W., Iowa City
 Skaggs, Joseph T., Des Moines
 Skallerup, Glenn M., Iowa City
 Skelley, Paul B., Jr., Dubuque
 Skultety, James A., Des Moines
 Sloan, Fredric J., Cedar Rapids
 Sloan, Fred R., Waterloo
 Smazal, Stanley F., Davenport
 Smead, Howard H., Des Moines
 Smead, Leslie L., Newton
 Smiley, Ralph E., Mason City
 Smith, Anthony P., Waucoma
 Smith, Arthur F., Manning
 Smith, Cecil R., Wyoming
 Smith, Channing G., Granger (L.M.)
 ★Smith, Charles B., Iowa City
 Smith, Elmer M., Eagle Grove
 Smith, Eugene, Waterloo
 Smith, Franklin C., Mount Ayr (L.M.)
 Smith, Harold F., Iowa City
 Smith, Herman J., Des Moines
 Smith, Homer A., Correctionville
 Smith, Howard W., Woodward
 Smith, Jason N., Iowa City
 Smith, John E., Clarence (L.M.)
 Smith, Lawrence D., Des Moines
 Smith, Rex I., Waterloo
 Smith, Robert A., Albia
 Smith, Robert T., Granger
 Smith, Rodger B., Mason City
 Smith, Sidney D., Waterloo
 Smouse, William O., Des Moines (L.M.)
 Smrha, James A., Cedar Rapids
 Smyth, William T., Iowa City
 Smythe, Arnold M., Des Moines
 Snook, Lee O., Jr., Wesley
 Snyder, Dean C., DeWitt
 Snyder, John A., Roland
 Snyder, Raleigh R., Des Moines
 Sohm, Herbert A., Des Moines
 Sokol, Charles R., State Center
 Sollis, Delmar B., Chariton
 *Somers, Pearl E., Tullahoma, Tenn. (L.M.)
 Sones, Clement A., Des Moines
 Sorensen, Elmer M., Red Oak
 Sorenson, Aral C., Davenport
 Sorenson, Kermit R., Sabula
 Sorenson, Philip W., Cedar Falls
 Southwick, William W., Marshalltown
 Spain, Robert T., Conrad (L.M.)
 Sparks, Francis R., Waverly (L.M.)
 Spear, William, Oakdale
 Spearing, Joseph H., Harlan
 Speidel, Glenn P., Hartford, Conn.
 Spellman, George G., Sioux City
 Spellman, Martin T., Cedar Rapids
 Spencer, Philip L., Essex
 Spencer, William A., Osage
 Sperow, Wendell B., Nevada
 Sperry, Frederick S., Clarinda
 Spevak, Jack, Des Moines
 Spielhagen, Guenther F., Iowa City
 Spilman, Harold A., Ottumwa

- Spohnheimer, L. Nelson, Donnellson
 Springer, Floyd A., Des Moines
 Sproul, William M., Des Moines
 Stalford, John H., Sac City (L.M.)
 Stam, Nicholas C., Mason City
 Stampler, Frederic W., Iowa City
 Stampfli, Frank V., Iowa City
 Standefer, Joe M., Des Moines
 Standeven, James W., Oakland
 Stansbury, John E., Cedar Rapids
 Stark, Callistus H., Cedar Rapids
 Stark, Frederick M., Sioux City
 Starr, Charles F., Mason City (L.M.)
 Starry, Allen C., Sioux City
 Stauch, Omar A., Sioux City
 Stoudt, Alfred J., Waterloo
 Steele, William L., Cedar Rapids
 Steenrod, Emerson J., Iowa Falls
 Steffens, Lincoln F., Dubuque
 Steffey, Fred L., Keokuk
 Stegmaier, Otto C., Davenport
 Stegman, Jacob J., Marshalltown
 Steinberger, George C., Des Moines
 Steindler, Arthur, Iowa City (L.M.)
 Stephen, Paul, Cedar Rapids
 Stephen, Raymond J., Cedar Rapids
 Stepp, James K., Manchester
 Sternagel, Fred, West Des Moines
 Sternberg, Walter A., Mount Pleasant (L.M.)
 Sternhill, Irving, Mason City
 Sternhill, Isaac, Council Bluffs
 Stevens, Clark W., Dubuque
 Stevens, John D., Clarinda
 Stevenson, Eber F., Waterloo (L.M.)
 Steves, Richard J., Des Moines
 Stewart, John H., Ottumwa
 Stewart, John K., Clinton
 Stewart, William L., Mediapolis
 Stickler, Robert B., Des Moines
 Stimac, Emil M., Davenport
 Stinson, Alice C., Estherville (L.M.)
 Stitt, Paul L., Fort Dodge
 Stoakes, Charles S., Lime Springs
 Stober, Raymond W., Charles City
 Stolley, J. George, Moline
 *Stolley, Robert J., New London
 Storck, Robert D., Dubuque
 Straub, Joseph J., Sioux City
 Strawn, John T., Des Moines
 Stribley, Harry A., Dubuque
 Stryker, Herbert E., Osceola
 Stryker, Henry B., Jr., Dubuque
 Stuart, Percy E., Nashua (L.M.)
 Strueland, Alvin J. R., Mason City
 Stumme, Ernest H., Denver
 Stutsman, Eli E., Washington
 *Stutsman, Robert E., Washington
 Suchomel, Thomas F., Cedar Rapids
 Sugioka, Kenneth, Iowa City
 Sullivan, John J., Oak Lawn, Ill.
 Sullivan, Lawrence F., Donahue
 Sulzbach, John F., Burlington
 Summers, Thomas B., Iowa City
 Sun, Kuei shu, Ames
 Sunderbruch, John H., Davenport
 Svehla, Richard B., Des Moines
 Svendsen, Reinert N., Decorah
 Swallum, James A., Storm Lake
 Swanson, Gerald W., Lamoni
 Swanson, Leslie W., Mason City
 Swayze, V. Warren, Muscatine
 Sweeney, Lloyd J., Sanborn
 Swift, Frederick J., Maquoketa (L.M.)
 Swift, Frederick J., Jr., Maquoketa
 Sybenga, Jacob J., Pella
 Synhorst, John B., Des Moines
 Sywassink, George A., Muscatine
 Taber, Rodman E., Iowa City
 Tait, John H., Des Moines
 Talley, Louis F., Marshalltown
 Tamisea, Francis X., Missouri Valley
 Taylor, Charles B., Claremont, Calif. (L.M.)
 Taylor, Edward D., Bettendorf (L.M.)
 Taylor, Harold N., Iowa City
 Taylor, James H., Des Moines
 Taylor, Lawrence A., Ottumwa
 Taylor, Maude, Ottumwa
 Taylor, Robert S., Davenport
 Taylor, Wendel W., Sheffield
 *Tempel, Paul F., Steamboat Rock
 Teufel, John C., Davenport
 Thaler, David, Cedar Rapids
 Thatcher, Wilbur C., Fort Dodge
 Theilen, Ernest O., Iowa City
 Thein, Garfield M., Oelwein
 Theisen, Roy I., Dubuque
 Thielen, Edward W., Waterloo
 Thielen, John B., Fonda
 *Thistlewaite, Edward A., Des Moines
 Thomas, Clifford W., Mason City
 Thomas, Clyde E., Keystone
 Thomas, Colin G., Monticello
 Thomas, Colin G., Jr., Chapel Hill, N. C.
 *Thomas, James H., Jr., Sibley
 Thomas, William H., McGregor
 Thompson, Elvin D., Jefferson
 Thompson, Howard E., Dubuque
 Thompson, James R., Waterloo
 Thompson, James W., Ames
 Thompson, Kenneth L., Oakland
 Thompson, Virginia D., Des Moines
 Thomsen, Thomas F., Red Oak (L.M.)
 Thorburn, Oral L., Ames
 Thornburg, William V., Guthrie Center (L.M.)
 Thornton, F. Eberle, Des Moines
 Thornton, John W., Lansing
 Thornton, Thomas F., Waterloo
 Thornton, Thomas F., Jr., Waterloo
 Thorsness, Edwin T., Dubuque
 Thorson, John A., Dubuque
 Throckmorton, J. Fred, Des Moines
 Throckmorton, Jeannette Dean, Des Moines (L.M.)
 Throckmorton, Robert F., Des Moines (L.M.)
 Throckmorton, Scott L., Chariton
 Throckmorton, Tom B., Des Moines
 Throckmorton, Tom D., Des Moines
 Tice, Claude B., Mason City (L.M.)
 Tice, George I., Mason City
 *Tice, Wayne K., Iowa City
 Tidrick, Robert T., Iowa City
 Tiedeman, John P., Sioux City
 Tierney, Edmund J., Sioux City
 Tierney, James M., Carroll
 Tilton, John J., Bellevue
 Tinley, Mary L., Council Bluffs (L.M.)
 Tinley, Mathew A., Council Bluffs (L.M.)
 Titus, Elton L., Iowa City (L.M.)
 Todd, Donald W., Guthrie Center
 Tolliver, Hillard A., Charles City
 Toubes, Abraham A., Des Moines
 TouVelle, Alwyn R., Bettendorf
 Towle, Robert A., Davenport
 Tracy, John S., Sioux City
 Trafton, Harold F., Council Bluffs
 Traister, John E., Eddyville
 Trey, Bernard L., Marshalltown
 Treynor, Jack V., Council Bluffs
 Trier, Paul J., Des Moines
 Trimbo, Joseph O., Chelsea (L.M.)
 Troxel, John F., Cedar Rapids
 Trueblood, Clare A., Indianola
 Trunnell, Thomas L., Waterloo
 Tucker, Francis C., Cedar Rapids
 Turner, George E., West Des Moines
 Turner, Howard V., Des Moines
 Turner, Lee R., Renwick
 Turner, Rosalie C., Nashua
 Turner, Roy M., Armstrong
 Turner, William R., Fort Dodge
 *Tyler, Donald E., Shenandoah
 Tyrrell, John E., Manchester
 *Tyrrell, Joseph W., Des Moines (L.M.)
 Uchiyama, John K., Des Moines
 Unger, David, Des Moines
 Updegraff, Charles L., Boone
 Updegraff, Robert R., Iowa City
 Updegraff, Thomas R., Waterloo
 Updegraff, William R., New York, N.Y.
 Valiquette, Frank G., Sioux City
 Van Allen, Maurice W., Davenport
 Van Camp, Thomas H., Breda
 Vander Meulen, Herman C., Pella
 Vander Stoep, Harry L., Le Mars
 Vanver Veer, Frank L., Janesville (L.M.)
 Van Epps, Clarence E., Iowa City (L.M.)
 Van Epps, Eugene F., Iowa City
 Vangness, Ingmar C., Sioux City
 Van Metre, Paul W., Rockwell City
 Van Patten, Ernest M., Fort Dodge
 Van Tiger, William H., Eldora
 Van Werden, Benjamin D., Keokuk
 Van Zante, Peter, Pella
 Vaubel, Ellis K., Estherville
 Vaubel, Rex O., Iowa City
 Veldhouse, Richard H., Cedar Rapids
 Veltman, John F., Winterset
 Vermeer, Gerritt E., Sheldon
 Victorine, Edward M., Cedar Rapids
 *Vincent, Jack F., Fort Dodge
 Viner, Thomas R., Leon
 Vineyard, Thomas L., Ottumwa
 Voelker, Chris A., Iowa City
 Voigt, Ernest J., Burlington
 Voigt, Franz O. W., Oskaloosa
 von Lackum, J. Kenneth, Cedar Rapids
 Voorhees, Philip H., Ottumwa
 Vorisek, Elmer A., Des Moines
 Vorpahl, Rudolph A., Cedar Rapids
 Voss, Otto R., Davenport
 Waggoner, Charles V., Clinton
 Wagner, Donald J., Sioux City
 Wagner, Eugene C., Plainfield
 Wagner, James A., Primghar
 Wahrer, Frederick L., Marshalltown
 Wainwright, Maxwell T., Sioux City
 *Waldemann, Edward B., Council Bluffs
 Walker, Charles C., Des Moines
 Walker, Glenn L., Iowa City
 Walker, Harry L., Cedar Rapids (L.M.)
 Walker, John R., Waterloo
 Walker, Thomas G., Riceville
 Walker, Thomas S., Riceville (L.M.)
 Wall, David, Ames
 Wall, John M., Boone
 Walliker, Wilbur M., Clinton
 Walsh, William E., Hawkeye
 Walston, Edwin B., Des Moines (L.M.)
 Walton, James H., Graettinger
 Walton, Seth G., Hampton
 *Walz, Donald V., LeMars
 Wanamaker, Ambrose E., Hamburg (L.M.)
 Wanamaker, Ambrose R., Hamburg
 Ward, Donovan F., Dubuque
 Ward, Lorraine W., Oelwein
 Ward, Thomas L., Arnold's Park
 Ware, Stephen C., Iowa City
 Warner, Emory D., Iowa City
 Waterbury, Charles A., Jr., Waterloo
 Watson, Charles F., Stacyville
 Watson, Elbert J., Diagonal (L.M.)
 Watters, George H., Des Moines
 Watters, Phillip G., Des Moines
 Watts, A. Fred, Creston
 Watts, Campbell F., Oakdale
 Watts, Clyde F., Marengo
 Weaver, David F., Davenport
 Weaver, Kenneth H., Union
 Weaver, Ralph L., Cumberland
 Webb, Daniel R., Oakdale
 Weber, Frank N., Walnut
 Weber, William W., Pomeroy
 Weems, Nev E., Paulina
 Wehman, Edward J., Burlington
 Weih, Elmer P., Clinton
 Weinberg, Harry B., Davenport
 Weingart, Julius S., Des Moines
 Weir, Edward C., Council Bluffs
 Weir, Matt B., Atlantic
 Weis, Howard A., Davenport
 Weland, Regis E., Cedar Rapids
 Wells, Fred L., Des Moines (L.M.)
 Wells, Rodney C., Marshalltown
 Wentworth, Laydon S., Marble Rock
 Wentzien, Albert J., Tama
 Werner, Harold T., Fort Madison
 West, Alroy G., Council Bluffs
 West, Harry D., Des Moines
 West, Norman D., Avoca
 West, Walter E., Centerville
 Westly, Gabriel S., Manly
 Westly, G. Travis, Des Moines
 Westly, J. Stephen, Manly
 Weston, B. Raymond, Mason City
 Weston, Robert A., Des Moines
 Wetrich, Max F., Grand Junction
 Weyer, Joseph J., Fort Dodge
 Wheeler, Richard A., Des Moines
 Whitaker, Ben T., Boone
 White, George H., Des Moines
 White, Paul A., Davenport
 Whitehill, Nelson M., Boone (L.M.)
 Whitehouse, William N., Ottumwa
 Whitley, Ralph L., Osage (L.M.)
 Whitmer, Lysle H., Muscatine
 Whitmire, James E., Sumner
 Whitmire, William L., Sumner (L.M.)
 Whitney, David G., Iowa City
 Wichern, Homer E., Des Moines
 Wicklund, Maurice M., Waterloo
 Wicks, Ralph L., Boone
 Widmer, James G., Wayland
 Widmer, Reuben B., Winfield
 *Wiedemeier, Joseph L., Sioux City
 Wilcox, Delano, Malcom (L.M.)
 Wilcox, Edgar B., Oskaloosa
 Wilcox, Keith E., Muscatine
 Wilcox, Robert A., Iowa City
 Wildberger, William C., Perry
 Wiley, Eugene D., Sioux City

- Wiley, Ralph E., Fontanelle
 Wilke, Frank A., Perry
 Wilkinson, Levi J., Laurel
 Willett, Wilton J., Manchester
 Williams, Benjamin G., Oskaloosa (L.M.)
 Williams, Edward B., Montezuma (L.M.)
 Williams, Frank S., Villisca (L.M.)
 Williams, Nathan B., Belle Plaine
 Williams, Robert L., Lakota
 Wilson, Charles R., Manson
 Wilson, F. Dale, Davenport
 Wilson, Frederic L., Sioux City
 Wilson, Frederic W., Sioux City
 Wilson, Robert G., Missouri Valley
 Winder, Clifford D., Waterloo
 Winninger, Louis T., Waterloo
 Winter, F. Donald, Burlington
 Winter, Louis C., Wilton Junction (L.M.)
 Wirsig, Arnold O., Shenandoah
 Wirtz, Dwight C., Des Moines
 Wise, Arthur C., Oakdale
 Wise, James H., Cherokee
 ★Witte, Herbert J., Marathon
 Witte, Max E., Independence
 Wittmer, Samuel C., Des Moines
 Wolcott, Ruth F., Spirit Lake
 Wolcott, W. Eugene, Des Moines (L.M.)
 Wolf, Henry H., Elgin
 Wolf, William J., West Union
- Wolfe, Joseph H., Iowa City
 Wolfe, Otis D., Marshalltown
 Wolfe, Otis R., Marshalltown
 Wolfe, Russell M., Marshalltown
 Wolfe, Wilson C., Ottumwa
 Wolpert, Paul L., Onawa
 Wolverton, Benjamin F., Cedar Rapids
 Wood, John R., Wadena
 Wood, Rollin W., Newton
 Woodard, Floyd O., Des Moines
 Woodbridge, James W., Kirkwood, Mo. (L.M.)
 Woodburn, Chester C., Iowa City
 Woodhouse, George R., Vinton
 Woodhouse, Keith W., Cedar Rapids
 Woods, Andrew H., Iowa City (L.M.)
 Woods, Arthur D., State Center
 Woodward, Lee R., Mason City
 Woolf, Robert M., Iowa City
 ★Woolfolk, Jesse H., Waterloo
 Wooters, Richard C., Des Moines
 Workman, Robert D., Ruthven
 Wormhoudt, Herbert L., Ottumwa
 Worrell, James T., Keosauqua
 Wray, Clarence M., Iowa Falls (L.M.)
 Wray, Robert M., Cedar Rapids
 Wright, Thomas D., Newton
 Wright, Walter N., Rose Hill (L.M.)
 Wubbena, Arthur C., Rock Rapids
 Wunschel, Richard C., Davenport
 Wurtzer, Ezra L., Clear Lake
 Wykoff, Sara U., Des Moines
- ★Wyland, Asa O., Underwood (L.M.)
 Wynegar, David E., Cherokee
- Yancey, Charles C., Sioux City
 Yavorsky, George W., Belle Plaine (L.M.)
 Yetter, William L., Iowa City
 Yocom, Albert L., Jr., Chariton
 Young, Ernest R., Dubuque (L.M.)
 Young, George G., Des Moines
 Young, Henry C., Bloomfield (L.M.)
 Young, Howard O., Marion
 Young, James J., Clinton
 Young, James W., Des Moines
 Young, Richard A., Clarion
 Yugend, Sidney F., Indianola
- Zabloudil, Warren C., Preston
 Zager, Lewis L., Waterloo
 Zavala, Donald C., Iowa City
 ★Zellenga, Robert H., Orange City
 Ziffren, Sidney E., Iowa City
 Zimmerer, Edmund G., Des Moines
 Zoeckler, Samuel J., Des Moines
 Zoller, Sherwood B., Fredericksburg
 Zuercher, Arlo R., Cedar Rapids
 Zukerman, Cecil M., Davenport
- ★Military Service
 *Deceased
 (L.M.) Life Member

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

LINES FROM THE PRESIDENT

With this message, I send you personal greetings. I hope that each one of you will assume your responsibility and give the same cooperation and loyalty which you have so generously given in the past.

We have evidence of a growing active Auxiliary; let us each in our own way lend our help to keep it growing.

We should work together in solving our State and county membership problems. More members means more people to do constructive work. The member on the local level is the important cog in the wheel of success.

Our State Officers and Chairmen are willing to cooperate and would appreciate any suggestions you have to offer.

Let us not forget our most important objective is "Working Together for Health."

MRS. LONNIE A. COFFIN, *President*

WOMAN'S AUXILIARY OFFICERS, 1952-1953

President—MRS. Lonnie A. Coffin, Farmington

President-Elect—MRS. Edward B. Hoeven, Ottumwa

First Vice-President—MRS. Lester R. Hegg, Rock Valley

Second Vice-President—MRS. Thomas E. Kane, Boone

Secretary—MRS. Charles F. Lowry, Council Bluffs

Treasurer—MRS. Dwight C. Wirtz, Des Moines

Assistant Treasurer—MRS. J. Fred Throckmorton, Des Moines

COUNCILORS

First District—MRS. Clayton W. Clark, Nashua

Second District—MRS. Soren S. Westly, Manly

Third District—MRS. James P. Clark, Estherville

Fourth District—MRS. John D. Lutton, Sioux City

Fifth District—MRS. Roger M. Minkel, Fort Dodge

Sixth District—MRS. James F. Gerken, Waterloo

Seventh District—MRS. Claire H. Mitchell, Cincinnati

Eighth District—MRS. George B. Crow, Burlington

Ninth District—MRS. Ralph J. Selman, Ottumwa

Tenth District—MRS. Allan G. Felter, Van Meter

Eleventh District—MRS. Charles H. Flynn, Clarinda

CHAIRMEN OF STANDING COMMITTEES

Archives—MRS. Fred Moore, Des Moines

Annual Meeting—MRS. Noble W. Irving, West Des Moines

Finance—MRS. William B. Chase, Jr., Des Moines

Historian—MRS. Ivan K. Sayre, St. Charles

Legislation—MRS. Howard W. Smith, Woodward

National Bulletin—MRS. Elmer A. Larsen, Centerville

Parliamentarian—MRS. James A. Downing, Des Moines

Program—MRS. Thomas E. Kane, Boone

Publication—MRS. Keith M. Chapler, Dexter

Revisions—MRS. William A. Seidler, Jamaica

Public Relations—MRS. Loyd K. Shepherd, Des Moines

Civil Defense—MRS. Melvin B. Cunningham, Norwalk

Student Nurse Recruitment and Loan Fund—MRS. Dean H. King, Spencer

Today's Health—MRS. Richardson E. Clark, Manchester

Work for the Handicapped—MRS. Herbert C. Merrill, Des Moines

Year Book—MRS. Claire H. Mitchell, Cincinnati

ADVISORS

Robert N. Larimer, M.D., Sioux City

Lonnie A. Coffin, M.D., Farmington

Otis D. Wolfe, M.D., Marshalltown

COURTESY RESOLUTIONS—APRIL 30, 1952

"Whereas the Iowa State Woman's Auxiliary to the Iowa State Medical Society in convention assembled has been the recipient of great courtesy; be it

Resolved the Auxiliary express its sincere appreciation to those who have offered this fine hospitality:

To the Polk County Auxiliary for their hospitality, and to the various committees that contributed so much to the comfort and pleasure of the women in attendance;

To Mary McCord and her assistants in the state office for their assistance in making the convention an occasion of pleasure and profit;

To the management of the Hotel Savery for their courtesy;

To the Chamber of Commerce for badges and their help in registration and the loan of a typewriter;

To the local drug companies for the favors and door prizes;

To the committee who had charge of the tea at the Art Center, and the Junior League who assisted;

To the talented artists, who contributed to the excellent musical programs;

To the Kendall players who so generously gave of their talents;

To Mr. Jerry Wolfe and Ann Cameron for the delightful style show;

To all other persons who have aided in the perfection of detail which has marked this convention, and to our honored President, Mrs. Smith, who has so tirelessly labored for our Auxiliary this year.

MRS. IVAN K. SAYRE

MRS. JOSEPH W. LAWRENCE

MRS. DONOVAN F. WARD

TWO IOWA PAST PRESIDENTS HONORED

A Philanthropic Committee has been appointed by the National President to investigate and work out a project for the National Auxiliary, the expense of which will be taken from the National Treasury on approval of the total membership and the Advisory Council of the AMA. The Committee is as follows: Mrs. Raymond T. Wayland, Saratoga, Calif.; Mrs. Arthur A. Herold, Shreveport, La.; Mrs. Robert S. Breakey, Buffalo, N. Y.; Mrs. Howard W. Smith, Woodward and Mrs. Claire H. Mitchell, Cincinnati.

A SUGGESTION

Whenever possible, in order to assist the Publications Chairman and the State Office, we are requesting that names of members appear thus: Mrs. Lonnie A. Coffin, Farmington. Include the first name, middle initial and last name. If the person is an officer, state the office behind her name only the first time that her name is mentioned.

ACTIVITIES OF COUNTY AUXILIARIES

The Black Hawk County Auxiliary met April 15 at the home of Mrs. Clarence J. Mikelson in Waterloo; 40 members were present at the dinner meeting. Mr. Harry Clark, principal of the Charles City high school, discussed "Narcotics and Youth." Since more and more children are being coerced in the use of narcotics, parents need to be actively aware of symptoms which Mr. Clark described. Ten years ago the average age of an addict was 30 years; now it is 20 years.

MRS. DONALD W. BICKLEY

Members of the Butler County Medical Auxiliary had dinner with the doctors April 7 at the Dumont Cafe in Dumont. The meeting was held at the home of Mrs. Melchior D. Enna. Plans were made for attending the Annual Meeting. Dues were raised to \$5.00 in order to contribute more to worthwhile causes. The Auxiliary voted to contribute to the Nurses Loan Fund. A program on cancer was arranged for the June meeting. Plans to sponsor a high school essay contest on socialized medicine were discussed.

MRS. FRANK F. MCKEAN

The Dallas-Guthrie Medical Society and Auxiliary had luncheon at The Elms May 22nd in Dexter. A business meeting at the Library Hall followed. Mrs. Howard W. Smith, Woodward, past president of the State Auxiliary and Mrs. William A. Seidler, Jamaica, reviewed the recent Annual Meeting. Mrs. Keith M. Chapler, Dexter, spoke briefly about recent legislation of interest to the medical profession.

The Dubuque County Auxiliary was entertained by the Medical Society with a social hour and dinner party May 13 at the Dubuque Golf and Country Club. Dr. Ben T. Whitaker, Boone, President of the Iowa State Medical Society and Dr. John Conner, Nevada, Chairman of the Rural Health Committee of the Iowa State Medical Society, were guest speakers.

MRS. ROBERT J. McNAMARA

The Marshall County Auxiliary held a Nurse Recruitment program at the high school in April. An industrial nurse, a nursing instructor, a student nurse, a public health nurse, a clinic nurse and a nurse home on leave from the Air Corps answered pertinent questions asked by Auxiliary members. Lists of organizations sponsoring scholarships and loans for nurses' training were distributed among the high school girls.

MRS. HARRIS R. HEISE

The March meeting of the Polk County Auxiliary was held at Younkers in Des Moines. An auction sale of articles contributed by members was held and proceeds were given to the Nurses Loan Fund.

MRS. WILLIAM J. MORRISSEY

The Wapello County Auxiliary had a luncheon May 6 at the Country Club in Ottumwa. Reports of the State Meeting were given by Mrs. Charles R. Phelps, Mrs. Wilson C. Wolfe and Mrs. Harold A. Spilman. One hundred dollars was voted toward the medical emergency fund to benefit

(Continued on page 383)

BLUE CROSS



BLUE SHIELD

... AND MY DOGGIE IS SICK ...

AND MY DADDY HAS
BLUE CROSS AND
BLUE SHIELD, AND...



SURVEY OF PARTICIPATING PHYSICIANS

The Board of Directors of Blue Shield recently authorized the executive office to make a survey of the participating physicians in an effort to determine their sentiments on Blue Shield contracts and benefits. It is hoped by the Board of Directors that all physicians will cooperate in furnishing full information regarding their feelings on present contracts and some proposed minor changes in contract benefits and full service provisions.

current basis. Changes are contemplated in the future operations so that the doctor will receive a monthly check from Blue Shield for all claims approved during the preceding month. This will eliminate about two thirds of the checks now being written to doctors for each claim submitted. In the proposed procedure the doctor will receive more complete information on each claim and will be furnished a list of all claims covered in his monthly check.

CLAIMS DEPARTMENT PROBLEMS

The ever increasing load of Blue Shield claims has created new problems for the Claims Department. In an expanding operation such as Blue Shield, it is always difficult to employ and train enough personnel to maintain the claim load on a

BLUE SHIELD MONTHLY STATISTICS

April, 1952

| | |
|------------------------------------|--------------|
| Enrollment | 335,836 |
| Claims Processed for Payment | 6,075 |
| Amount Paid in Claims | \$206,705.58 |

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chestnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

CLASSIFICATION OF MEMBERSHIPS

Since the last publication of the description of our memberships in the Academy of General Practice, two new classifications have been added. The inactive status was established to satisfactorily classify men called to the armed services, for those who for some reason have become unable to engage in active practice. The other new classification is that of sustaining membership, the purpose of which is explained below.

We hope that our readers will check these classifications thoroughly to find the facts concerning your individual case with reference to membership in the Academy. Write us for an application.

ACTIVE

Educational Requirements—150 hours of post-graduate work every three years, 50 hours of which must be formal training.

Privileges—may hold office, work on committees and vote.

Practice—in active practice over three years.

Enrollment Fee—\$10.00.

State Chapter Dues—\$7.50 per year.

American Academy Dues—January 1 to January 1 . . . \$15.00, May 1 to January 1 . . . \$10.00, September 1 to January 1 . . . \$5.00.

Subscription to GP—included.

ASSOCIATE (FOR 3 YEARS ONLY)

Educational Requirements—150 hours of post-graduate work every three years, 50 hours of which must be formal training.

Privileges—may not hold office, work on committees, or vote.

Practice—in active practice for less than three years.

Enrollment Fee—none.

State Chapter Dues—\$5.00 per year.

American Academy Dues—\$5.00 per year.

Subscription to GP—\$5.00 per year additional.

INACTIVE (TO BE RE-EVALUATED ANNUALLY)

Educational Requirements—none.

Privileges—may not hold office, work on committees, or vote.

Practice—(a) incapacitated by illness, accident, age or infirmity, or unable to engage in practice; (b) in military service.

Enrollment Fee—none.

State Chapter Dues—dues must have been remitted by the county medical society; then the Board of Directors may remit all dues.

American Academy Dues—none if so notified by the state chapter.

Subscription to GP—\$5.00 per year subscription fee.

HONORARY

These memberships are granted by action of the Board of Directors to persons of distinction who have rendered outstanding service to the American Academy of General Practice or to the medical profession. Likewise, a distinguished member of the American Academy of General Practice who has retired may be elected to this status.

EMERITUS

Educational Requirements—none.

Privileges—may hold office, work on committees, and vote.

Practice—in active practice over 30 years or 70 years of age or older.

Enrollment Fee—\$10.00.

State Chapter Dues—\$7.50 per year.

American Academy Dues—January 1 to January 1 . . . \$15.00, May 1 to January 1 . . . \$10.00, September 1 to January 1 . . . \$5.00.

Subscription to GP—included.

SUSTAINING

Educational Requirements—none.

Privileges—may not hold office or work on committees, but may vote.

Practice—has ceased active practice but wishes to continue membership in medical organizations.

Enrollment Fee—\$10.00.

State Chapter Dues—\$7.50 per year.

American Academy Dues—January 1 to January 1 . . . \$15.00, May 1 to January 1 . . . \$10.00, September 1 to January 1 . . . \$5.00.

Subscription to GP—included.

GP INSURANCE

The Board of Directors of the Iowa Academy of General Practice wishes to urge our membership to avail themselves of the opportunity to procure the accident and health insurance sponsored by the Academy. Everyone has been circularized, and we hope you will act promptly.

STATE DEPARTMENT OF HEALTH

Nathan L. Biering

POLIOMYELITIS IN IOWA, 1951

The following report on poliomyelitis by county in Iowa is the final tabulation for reported cases for the year 1951. Case rates are based upon 1951 population.

| COUNTY | CASES | CASE RATE PER 100,000 |
|-------------|-------|--------------------------|
| Adair | 1 | 8.2 |
| Adams | 1 | 11.7 |
| Allamakee | 2 | 12.3 |
| Appanoose | 2 | 10.5 |
| Audubon | 1 | 8.7 |
| Benton | 2 | 9.0 |
| Black Hawk | 21 | 20.4 |
| Boone | 3 | 10.7 |
| Bremer | 5 | 26.3 |
| Buchanan | 3 | 13.6 |
| Buena Vista | 6 | 28.2 |
| Butler | 2 | 11.5 |
| Calhoun | 9 | 53.4 |
| Carroll | 4 | 17.3 |
| Cass | - | - |
| Cedar | 8 | 47.3 |
| Cerro Gordo | 5 | 10.8 |
| Cherokee | 7 | 36.8 |
| Chickasaw | 2 | 13.1 |
| Clarke | - | - |
| Clay | 6 | 33.1 |
| Clayton | 3 | 13.5 |
| Clinton | 7 | 13.9 |
| Crawford | 5 | 25.5 |
| Dallas | 3 | 12.7 |
| Davis | - | - |
| Decatur | 1 | 8.0 |
| Delaware | 3 | 17.0 |
| Des Moines | 9 | 21.1 |
| Dickinson | - | - |
| Dubuque | 8 | 11.1 |
| Emmet | 1 | 7.0 |
| Fayette | 9 | 31.0 |
| Floyd | 3 | 13.8 |
| Franklin | 8 | 49.2 |
| Fremont | 2 | 16.6 |
| Greene | 2 | 13.0 |
| Grundy | 4 | 29.1 |
| Guthrie | 1 | 6.7 |
| Hamilton | 2 | 10.2 |
| Hancock | 3 | 20.0 |
| Hardin | 5 | 22.5 |
| Harrison | 3 | 15.7 |
| Henry | 1 | 5.3 |
| Howard | 1 | 7.7 |
| Humboldt | 2 | 15.3 |
| Ida | 6 | 56.3 |
| Iowa | 4 | 25.5 |
| Jackson | 2 | 10.8 |
| Jasper | 8 | 24.7 |
| Jefferson | 2 | 12.7 |
| Johnson | 22 | 46.5 |
| Jones | 2 | 10.3 |
| Keokuk | 6 | 36.2 |
| Kossuth | 8 | 30.5 |
| Lee | 2 | 4.6 |
| Linn | 13 | 12.2 |
| Louisa | - | - |
| Lucas | - | - |
| Lyon | - | - |
| Madison | 2 | 15.4 |
| Mahaska | 3 | 12.3 |
| Marion | 3 | 11.6 |
| Marshall | 1 | 2.8 |
| Mills | 7 | 50.2 |
| Mitchell | 1 | 7.2 |
| Monona | 7 | 43.6 |
| Monroe | - | - |

| | | |
|---------------|-----|-------|
| Montgomery | - | - |
| Muscatine | 5 | 15.5 |
| O'Brien | 3 | 15.8 |
| Osceola | - | - |
| Page | 9 | 37.8 |
| Palo Alto | 1 | 6.3 |
| Plymouth | 3 | 12.9 |
| Pocahontas | 1 | 6.5 |
| Polk | 39 | 17.0 |
| Pottawattamie | 8 | 11.4 |
| Poweshiek | 7 | 36.1 |
| Ringgold | - | - |
| Sac | 1 | 5.7 |
| Scott | 11 | 10.7 |
| Shelby | 3 | 18.9 |
| Sioux | 2 | 7.6 |
| Story | 11 | 24.1 |
| Tama | 5 | 23.2 |
| Taylor | 3 | 24.6 |
| Union | 5 | 32.1 |
| Van Buren | - | - |
| Wapello | 15 | 31.4 |
| Warren | 6 | 33.8 |
| Washington | 5 | 25.6 |
| Wayne | 3 | 26.0 |
| Webster | 4 | 9.0 |
| Winnebago | 8 | 59.8 |
| Winneshiek | 1 | 4.6 |
| Woodbury | 25 | 24.0 |
| Worth | - | - |
| Wright | 6 | 30.6 |
| Total Cases | 465 | 17.7* |

* State Average

For comparison of 1951 with recent years in Iowa the following table shows numbers of cases, case rates and number of poliomyelitis deaths from 1946 through 1951:

| YEAR | NUMBER OF CASES | CASE RATE PER 100,000 | NUMBER OF DEATHS |
|------|-----------------|--------------------------|------------------|
| 1946 | 620 | 24.0 | 53 |
| 1947 | 176 | 6.8 | 8 |
| 1948 | 1236 | 47.65 | 81 |
| 1949 | 1217 | 46.7 | 90 |
| 1950 | 1399 | 53.6 | 65 |
| 1951 | 465 | 17.7 | 22 |

To date, May 24, poliomyelitis case incidence has been low in 1952 with most of the cases reported from counties in the eastern half of the state.

| MONTH 1952 | NUMBER OF CASES | MONTH 1951 | NUMBER OF CASES |
|---------------|-----------------|---------------|-----------------|
| January | 2 | January | 7 |
| February | 3 | February | 9 |
| March | 2 | March | 5 |
| April | 4 | April | 7 |
| MAY | | MAY | |
| 1st week | 0 | 1st week | 2 |
| 2nd week | 4 | 2nd week | 1 |
| 3rd week | 1 | 3rd week | 0 |
| 4th week | 1 | 4th week | 2 |
| Total May 24 | 17 | Total May 26 | 33 |

COUNTIES REPORTING CASES IN 1952

| | | |
|-------------------|------------------|-------------------|
| Buena Vista ....1 | Hamilton .....1 | Polk .....1 |
| Calhoun .....2 | Jackson .....1 | Scott .....2 |
| Clinton .....1 | Jasper .....1 | Story .....1 |
| Carroll .....1 | Johnson .....1 | Washington .....1 |
| Dubuque .....1 | Muscatine .....1 | Winnebago .....1 |
| Total17 | | |

RELATIONSHIP BETWEEN INOCULATIONS
AND POLIOMYELITIS

The following editorial is quoted from the *Journal of American Medical Association*, May 10, 1952. It will be especially valuable to physicians and health workers at this time.

Because of widespread discussion and public alarm last year concerning the possible relationship between various types of inoculations and poliomyelitis, the State and Territorial Health Officers Association asked the Public Health Service, Federal Security Agency, to sponsor a study of the question and issue a clarifying statement. Subsequently, the Public Health Service, on March 14, 1952, sponsored a meeting of 41 poliomyelitis investigators, epidemiologists, pediatricians, allergists and health officers. The National Foundation for Infantile Paralysis helped plan and participated in the conference.

The conference voted unanimously in favor of the conclusions contained in the following statement which has been accepted by the Public Health Service and transmitted to official health agencies, to the medical profession and to the general public.

There is no definite evidence that an increase in the number of cases of poliomyelitis has occurred as a result of injections of vaccines, drugs, and other medical agents. There is evidence that injections for the prevention of diphtheria, whooping cough and possibly tetanus, when given during an epidemic of poliomyelitis, may, on rare occasion, localize the paralysis in the inoculated arm or leg. There is no satisfactory evidence that other types of injections have any effect on the localization, frequency, or severity of poliomyelitic paralysis. In the small number of persons with localization of paralysis in the inoculated limb, the injections, for the most part, were given about 7 to 21 days prior to onset, which corresponds to the usual incubation period of poliomyelitis. This has raised the question as to whether or not inoculated persons have a greater chance of contracting poliomyelitis during an epidemic.

There is as yet no final answer to this question, but it is a fact that, even if there should be an increased chance, it is extremely small. Many thousands of poliomyelitis cases occur every year among children who have not had any injections during the preceding few months, and thousands of children have received injections for whooping cough, diphtheria and tetanus during poliomyelitis epidemics and have not developed the disease.

Diphtheria, tetanus and whooping cough are

serious diseases which can be prevented by immunization. Unchecked, these diseases present a far greater hazard than poliomyelitis. The benefits derived from immunization against these diseases far outweigh the questionably small increased chance of contracting poliomyelitis. However, even this questionable risk can be avoided by carrying out these immunizations when poliomyelitis is not epidemic in the community. There appears to be no good reason for withholding these immunizations during the summer months in communities that are not having an epidemic of poliomyelitis.

Furthermore, poliomyelitis it at all times so rare in infants under 6 months of age, and the danger from other infectious diseases, particularly whooping cough, it so great, that it is advisable to continue the immunization procedures for this age group even during a poliomyelitis epidemic. In adults also, poliomyelitis is relatively so infrequent, that when there is a need for immunizing or therapeutic injections, such injections should not be withheld.

Certainly no parent should object and no physician should hesitate to administer a needed antibiotic, drug or other injection for treatment of disease at any time. When there is immediate danger from diphtheria, whooping cough or tetanus, the preventive inoculations should be given to all threatened age groups even during a poliomyelitis epidemic. In the final analysis the decision as to when an immunizing or therapeutic injection shall be given to an individual patient must rest with the physician.

DANGER—SUMMER IS HERE

Two thirds of all accidental drownings occur during the three months of June, July and August. About five times as many males as females meet accidental death in this way. These accidental deaths occur mostly in rivers, creeks, lakes and ponds, although gravel pits, quarries, ditches, and even wells or cattle watering tanks are danger points in this connection.

About one in five deaths from drowning occur to persons who were boating. It is noteworthy that one in ten of the deaths occurred at home, and an additional proportion occurred on a farm. This last group of deaths were predominantly drownings of children under five years of age, in which group one would suppose that more careful supervision over the infants could result in a great saving of lives.

In terms of age, one fourth of all these deaths happened to children under the age of five years, and another one fourth to youths between the ages of five and 15 years. Two thirds of all drowning accidents occur to persons under 20 years of age.

In the last five years there has been an average of over 80 deaths a year from drowning. Consid-

ering the extreme youth of these persons, it would seem that many of these deaths could be prevented by better parental supervision and by recreation in supervised areas. A comparison of age-sex groups, always shows boys in the youthful daring age are more prone to accidental drowning than are members of any other age-sex group. This group definitely requires close supervision while they are enjoying water sports.

DROWNINGS IN IOWA
(Not Including Drownings Due to Suicides or
Automobile Accidents)

| YEAR | NO. OF DEATHS | YEAR | NO. OF DEATHS |
|------|---------------|------|---------------|
| 1941 | 108 | 1946 | 72 |
| 1942 | 118 | 1947 | 81 |
| 1943 | 120 | 1948 | 88 |
| 1944 | 93 | 1949 | 75 |
| 1945 | 90 | 1951 | 79* |

* Provisional

MORBIDITY REPORT

| DISEASE | MAY 1952 | MAY 1951 | APRIL 1952 | MOST CASES REPORTED FROM THESE COUNTIES |
|-------------------|----------|----------|------------|---|
| Diphtheria | 1 | 1 | 0 | Des Moines |
| Typhoid Fever | 1 | 0 | 0 | Jefferson |
| Scarlet Fever | 82 | 23 | 52 | Clinton, Dubuque, scattered |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 764 | 807 | 530 | Black Hawk, Buena Vista, Dubuque, Clay, Hamilton |
| Brucellosis | 26 | 42 | 31 | Cass 2, Cerro Gordo 3, Jackson 2, Muscatine 2—others 1 to a county |
| Whooping Cough | 19 | 72 | 22 | Des Moines, Lee Shelby, Union |
| Chickenpox | 281 | 305 | 441 | Dubuque, Johnson, Linn |
| Meningitis men. | 5 | 4 | 5 | Scattered |
| Mumps | 272 | 359 | 321 | Black Hawk, Buena Vista, Clinton |
| Pneumonia | 7 | 6 | 7 | Henry, Iowa, Polk |
| Poliomyelitis | 7 | 5 | 7 | Calhoun (2), Carroll, Cerro Gordo, Scott, Washington, Winnebago, each 1 |
| Rabies in Animals | 40 | 52 | 46 | Boone, Clinton, Kossuth, Sac |
| Tuberculosis | 67 | 91 | 56 | For the state |
| Gonorrhea | 35 | 38 | 35 | For the state |
| Syphilis | 75 | 155 | 127 | For the state |

WOMAN'S AUXILIARY

(Continued from page 378)

handicapped children in the special educational program in the schools. Plans were made for an early summer picnic which will be held for the doctors and their wives at the home of Dr. and Mrs. Frederick L. Nelson. Special tribute was given to Mrs. Edward B. Hoeven, President-elect of the State Auxiliary. Newcomers present were Mrs. Loran E. Coppoc, Mrs. Charles W. Gray and Mrs. Richard A. Hastings. Officers for the coming year, all of Ottumwa are: President, Mrs. Philip D. McIntosh; President-elect, Mrs. Charles R. Phelps; Vice President, Mrs. William D. Maixner; Treasurer, Mrs. Charles R. Phelps and Secretary, Mrs. Harold A. Spilman.

MRS. HAROLD A. SPILMAN

The Emmet County Auxiliary held a tea April 3 for local high school girls interested in nursing at the Margaret Maniece School, Estherville. Miss Elizabeth Busch, Assistant Director of the Iowa State Nursing Association, addressed the 30 girls who were present. The Auxiliary hopes to make such a meeting an annual affair and eventually to include all high schools in the county.

MRS. JAMES P. CLARK

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

COMMITTEE ON MEDICAL SERVICE

May 18, 1952

The Committee on Medical Service met on Sunday, May 18, with the following persons present: Drs. Fred Sternagel, Ben T. Whitaker, Channing G. Smith, Eugene E. Smith, Dwight G. Sattler, Frank D. McCarthy, John C. DeMeulenaere, Robert S. Jaggard, Edward H. Files, Callistus H. Stark, Stanley T. Moen, Bruce F. Howar, Raymond F. Frech, Charles V. Edwards, Harold A. Spilman, Ralph E. Smiley, Otto N. Glesne, Martin I. Olsen, William M. Sproul, Howard H. Smead, and Ransom D. Bernard and Mr. Don Taylor.

Meeting was called to order at 11:30; Dr. Whitaker spoke briefly, stressing possible activities for the committee; Dr. Sternagel told of work done in the past and what is projected for the future; Mr. Sherin discussed the Veterans' program and problems; Dr. Bernard gave a brief history of the committee; Dr. Channing Smith discussed the Old Age Assistance program; Dr. Olsen pointed out various Blue Shield problems and asked advice on them; Dr. Stark told of the work his committee plans to do, and Dr. Frech asked for ideas on industrial health. The meeting adjourned at 4:30 p.m.

BOARD OF TRUSTEES

May 20, 1952

The Board of Trustees met in the central office Tuesday afternoon, May 20, with all members present. Minutes were read and approved and bills were authorized; Dr. Bernard presented his report; Mr. Myers reported on the status of income tax matters; *Journal* matters were discussed; new furniture for the office considered, and the meeting adjourned at 4:30 p.m.

HEART COMMITTEE

June 1, 1952

The Heart Committee met in the central office Sunday morning, June 1, with the following persons present: Herbert W. Rathe, Eugene B. Floersch, Kenneth K. Hazlet and Ransom D. Bernard. Dr. Bernard explained he was trying to coordinate the work of all committees and to bring to the State Society information about the different lay organizations working in health; Dr. Rathe told of the history of the committee and how it had functioned in the Iowa Heart Association. The meeting adjourned at 1:30.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

ADVANCES IN MEDICINE AND SURGERY, from The Graduate School of Medicine of the University of Pennsylvania. W. B. Saunders Co., Philadelphia, 1952. Price \$8.00.

AMBULATORY PROCTOLOGY, by Alfred J. Cantor, M.D., Proctologist, Kew Gardens General Hospital, Long Island, N. Y.; Formerly Assistant Attending Gastroenterologist, Queens General Hospital, and Assistant Adjunct Proctologist, Hospital for Joint Diseases, New York. Foreword by Beaumont S. Cornell, M.D. Second Edition. Paul B. Hoeber, Inc., New York, 1952. Price \$10.00.

BONE TUMORS, by Louis Lichtenstein, M.D., Senior Pathologist, General Medical and Surgical Hospital, Veterans Administration Center, Los Angeles. Formerly Associate Pathologist, Hospital for Joint Diseases, New York. Consultant in Bone Tumors, Tumor Registry of the California Medical Association Cancer Commission. Sometime lecturer in Bone Pathology, Medical Extension, University of California, Los Angeles. The C. V. Mosby Co., St. Louis, 1952. Price \$10.50.

FUNCTIONAL ENDOCRINOLOGY FROM BIRTH THROUGH ADOLESCENCE, by Nathan B. Talbot, M.D., Associate Professor of Pediatrics, Harvard University; Physician, Children's Medical Service, Massachusetts General Hospital; Edna H. Sobel, M.D., Formerly Research Fellow in Pediatrics, Harvard University; at Present Instructor in Pediatrics, University of Cincinnati College of Medicine; Research Associate, Children's Hospital Research Foundation and the Fels Research Institute, Antioch College; Janet W. McArthur, M.D., Instructor in Gynecology, Harvard University; Assistant Physician, Massachusetts General Hospital; and John D. Crawford, M.D., Instructor in Pediatrics, Harvard University; Assistant Physician, Children's Medical Service, Massachusetts General Hospital. Harvard University Press, Cambridge, Mass., 1952. Price \$10.00.

THE ORIGIN OF LIFE AND THE EVOLUTION OF LIVING THINGS, by Olan R. Hyndman, B.S., M.D., F.A.C.S. Philosophical Library, New York, 1952. Price \$8.75.

THE SCALP IN HEALTH AND DISEASE, by Howard T. Behrman, M.D., Assistant Clinical Professor of Dermatology, New York University Post-Graduate Medical School; Adjunct Dermatologist, Mount Sinai Hospital; Attending Dermatologist, Hillside Psychiatric Institute; Formerly Associate Dermatologist, Bellevue Hospital and Assistant Attending Dermatologist, University Hospital; Fellow in Dermatology, New York Academy of Medicine; Member, Committee on Cosmetics, American Medical Association. Society of Cosmetic Chemists; Society for Investigative Dermatology; Fellow, American Academy of Dermatology; Diplomate, American Board of Dermatology. The C. V. Mosby Co., St. Louis, 1952. Price \$12.75.

THE TOXEMIAS OF PREGNANCY, by William J. Dieckmann, M.D.; Mary Campau Ryerson, Professor and Chairman of the Department of Obstetrics and Gynecology of the University of Chicago; Chief of Service of the Chicago Lying-in Hospital and Dispensary; Attending Gynecologist, Albert Merrit Billings Memorial Hospital of the University of Chicago; Associate Editor of the *American Journal of Obstetrics and Gynecology*. Second Edition. The C. V. Mosby Co., St. Louis, 1952. Price \$14.50.

THE UNIPOLAR ELECTROCARDIOGRAM, A CLINICAL INTERPRETATION, by Joseph M. Barker, M.D., F.A.C.P., Cardiologist, Yater Clinic; Associate Professor of Clinical Medicine and Special Lecturer in Physiology, Georgetown University School of Medicine; Director of the Heart Station and Visiting Physician, Georgetown University Hospital; Chief of Cardiology, Providence Hospital; Visiting Physician, Gallinger Municipal Hospital; Consulting Cardiologist, Arlington Hospital, Arlington, Va.; assisted by Joseph J. Wallace, M.D., F.A.C.P. and Advised by Wallace M. Yater, M.D., F.A.C.P. Appleton-Century-Crofts, Inc., New York, 1952.

VASCULAR DISEASES IN CLINICAL PRACTICE, by Irving Sherwood Wright, M.D., Professor of Clinical Medicine, Cornell University Medical College; Attending Physician, The New York Hospital. Second Edition. The Year Book Publishers, Inc., Chicago, Ill., 1952. Price \$8.50.

BOOK REVIEWS

DYNAMIC PSYCHIATRY, Basic Principles. Volume I, by Louis S. London, M.D. (Corinthian Publications, Inc., New York, \$2.00).

This compact volume is the first in a series of books covering phases of the general subject of dynamic psychiatry, all by Dr. London. The author is one of the early workers in psychoanalysis in this country. In the years since he started practice he has accumulated a vast amount of clinical experience which he plans to exploit fully in these books.

The first portion of this initial volume emphasizes the rich historical background for psychoanalytic thinking. References include early religious books and customs wherein it becomes apparent that the emotional influences in human behavior were recognized and respected even in ancient times. The more specific concepts of Freud and his successors—the refiners and the detractors—are then described in concise terms.

For the serious student these books should offer a good source of relatively unavailable information. They are intended to be read by all members of the medical profession regardless of any special interests. There is no substitute in psychiatry for clinical experience but sharing the experience of someone else is helpful at all times. The introductory book will be followed by similar, small volumes which will include detailed case reports.—H. Margulies, M.D.

A SEX GUIDE TO HAPPY MARRIAGE, by Edward F. Griffith, M.D. (Emerson Books, Inc., New York, \$3.00).

British authors have the peculiar facility of dealing with the problems of sexual behavior with a ready facility for understanding by the patient. This volume is especially complete in its coverage of the subject. A rather large appendix refers the reader to the agencies available in each of the United States for help in the various counseling services. Physicians would do well to recommend this book to all patients who request information relating to the subject.—E. M. George, M.D.

A TEXTBOOK OF ORTHOPEDICS, with a Section on Neurology in Orthopedics, by M. Beckett Howorth, M.D. (W. B. Saunders Co., Philadelphia, \$16.00).

It is obvious from a review of this volume that Dr. Howorth has attempted to compile in one textbook a digest of all his knowledge derived from many years of teaching. It is not generally known that the author's personal library is perhaps one of the most complete on the subject of orthopedic surgery. Each chapter is followed by a splendid bibliography listing important references of medical literature. The illustrations are of excellent quality. This text is highly recommended as one of the most complete in its field.—E. M. George, M.D.

PSYCHOSOMATIC GYNECOLOGY, Including Problems of Obstetrical Care, by *William S. Kroger, M.D.* and *S. Charles Freed, M.D.* (W. B. Saunders Co., Philadelphia, \$8.00).

To a review of all available literature dealing with the psychosomatic aspects of obstetrics and gynecology, the authors have added the results of their own experience, thus presenting a great variety of material, much of which is rather speculative. This serves to point out areas in which a great deal of profitable research could be done in the future as the psychosomatic approach to these problems could result in great medical advances in the future.

The first chapters deal with the fetus and infant, discussing maternal-fetal relationship and the possible modification of inherited characteristics in the fetus by prenatal environment. The postnatal period is dealt with briefly, with stress on the profound influence of parental behavior patterns on the infant. In the chapter on psychosexual development in relation to gynecologic disorders the development of the female from infancy to adolescence is traced with the emotional problems and conflicts of that period demonstrated as factors in the psychogenic difficulties of the adult.

The second part of the book covers the psychosomatic aspects of pregnancy. A chapter of Read emphasizes the patient's reaction to the four emotional phases of labor. A chapter on hypnosis compares this technic with the Read Technic. Personality changes and treatment of prepartum and postpartum psychoses are discussed. In the section dealing with miscellaneous obstetric conditions such as emotional spontaneous abortion, hyperemesis gravidarum, toxemias of pregnancy, heartburn and lactation, they stress the value of psychotherapeutic technics as well as medical therapy for treatment.

In the section on the psychosomatics of gynecologic disorders, the authors consider various menstrual disorders, sterility, the psychogenic aspects of contraception, frigidity, pelvic pain, obesity, the menopause, homosexuality and nymphomania, the psychodynamics involved and the various forms of psychogynecic therapy. It is pointed out that certain emotional conflicts tend to disturb the function of the female reproductive organs.

In conclusion the authors state that the ideal gynecologist should be as well trained in psychiatry as in gynecology, otherwise he is limited in the types of therapy he may employ. The technics of psychogynecic therapy are briefly discussed.—*A. E. Schill, M.D.*

YOUR DIABETES, A Manual for the Patient, by *Herbert Pollack, M.D.* and *Marie Krause* (Paul B. Hoeber, Inc., New York, \$3.00).

This book is a manual for the diabetic patient to aid him in the understanding of the disease and its control. The subject matter included is intended to explain the mechanism of diabetes to the patient, the possible harm that it may cause and the rationale and methods of treatment as exemplified by diet and insulin. It contains much information which should be of value to the physician as well as the patient. The manual has several weaknesses. The discussion of the abnormal physiology which causes diabetes mellitus is presented in such a manner that it would seem unlikely that the average patient would have a clear

picture of the disease process and its problems. Again in the matter of treatment, the manual implies that the patient is to make various changes in diet and insulin dosages, decisions which would be better left to the judgment of the attending physician. The sections on diabetic complications and diet are very satisfactory. As a whole the volume is worthwhile.—*R. J. Reed, M.D.*

CURRENT THERAPY, 1952, Approved Methods of Treatment for the Practicing Physician, edited by *Howard F. Conn, M.D.* (W. B. Saunders Co., Philadelphia, \$11.00).

In this day and age when the practitioner is harassed by too many patients, too many new drugs and too many drug salesmen, the 1952 edition of this book will come as a welcome addition to his library. This book is an authoritative digest of treatment of all types of diseases. It differs from Beckman's classic in that there is very little or no description of the disease to be treated. It also differs in that there may be several methods of treatment for a given condition by several authors. There are approximately 350 contributors; all are of the highest caliber. Diseases are well catalogued according to classes. Most of the book is concerned with medical diseases, but general concepts of care are given for surgical, gynecologic, urologic and other "specialty" conditions as well.

The 1952 edition differs from the 1951 edition in being larger, in containing methods by 189 new contributors and in having many revisions of previous articles by old authors.

This book should be in the office of every doctor who is practicing medicine involving therapeutics. It is reliable, concise and lucid. Orchids to Dr. Conn.—*D. A. Glomset, M. D.*

DIAGNOSTIC BACTERIOLOGY, by *Isabelle G. Schaub* and *M. Kathleen Foley* (C. V. Mosby Co., St. Louis, \$4.50).

This volume is the fourth edition of work which has found a place in the library of most medical laboratories. It is clear, concise and has been a great aid in both the education of student technicians and the guidance of the full fledged technician.

The present text brings the bacteriological methods up to date and covers the field completely. It is highly recommended for all interested in medical bacteriology.—*W. Rindskopf, M.D.*

PRESCRIPTION FOR MEDICAL WRITING, A Useful Guide to Principles and Practice of Effective Scientific Writing and Illustration, by *Edwin P. Jordan, M.D.* and *Willard C. Shepard* (W. B. Saunders Co., Philadelphia, \$2.50).

This booklet is a concise presentation of the basic essentials in the preparation of effective scientific papers. Not only is the reader given information on proper phrasing, but special problems on the preparation of the index, the use of illustrations and the value of statistics are included. A complete bibliography lists other publications pertaining to this subject. All medical authors will obtain much valuable material to be used in the preparation of all medical writing.—*E. M. George, M.D.*

SOCIETY PROCEEDINGS

MEETINGS

Blackhawk

Annual Ladies Nite was observed by the Blackhawk County Medical Society members and their wives May 20 at the Elks Club in Waterloo. Mr. James A. Hamilton, of Hamilton Associates, Minneapolis, Minn., spoke on "Public Relations and the Professions."

Boone-Story

Dr. Frank C. Coleman, Des Moines, spoke on "Cancer of the Gallbladder" at a joint dinner meeting of the Boone-Story County Medical Society May 20 at the Lincoln Restaurant in Boone.

Delaware

The regular meeting of the Delaware Medical Society was held May 12 at the Delaware County Memorial Hospital, Manchester. Dr. John F. Kanealy, Cedar Rapids, spoke on "Urinary Tract Infections."

Johnson

The Johnson County Medical Society's twenty-fifth annual picnic was held June 4 at the home of Dr. George C. Albright, Iowa City.

Linn

Dr. J. Stuart McQuiston, Cedar Rapids, was recently elected the 1952 President of the Linn County Medical Society. Other new officers include: President-elect, Dr. Robert Y. Netolicky; Vice President, Dr. Robert M. Chapman; Secretary, Dr. John F. Kanealy and Treasurer, Dr. Arlan F. Harrington, all of Cedar Rapids.

Woodbury

Dr. Robert N. Larimer, Sioux City, President-Elect of the Iowa State Medical Society, was honored May 15 at a business meeting of the Woodbury County Medical Society at the Mayflower Hotel in Sioux City.

PERSONALS

Dr. Russell W. Blanchard, Council Bluffs, was recently elected President of the Iowa Radiology Society.

Dr. Loren E. Collins, formerly of Estherville, recently accepted a fellowship in radiology at the Mayo Foundation, Rochester, Minn.

Dr. Donald C. Edgren, formerly of Washington, D. C., has joined the West Davenport Clinic in Davenport, where he will specialize in internal medicine. A 1946 graduate of the St. Louis University School of Medicine, St. Louis, Mo., he served his internship at the University Hospitals, St. Louis and completed his residency at the Georgetown University and Gallinger Municipal Hospitals, Washington, D. C.

Dr. Lewis E. January, Iowa City, was named President of the Iowa Heart Association at the Association's recent meeting in Des Moines. Other new officers are: President-Elect, Dr. Eugene B. Floersch, Council Bluffs and Secretary, Dr. Ralph E. Smiley, Mason City.

Dr. Robert F. McCool, Peoria, Ill., will begin the practice of medicine, specializing in surgery in Clarion during August. Dr. McCool was graduated from the St. Louis University School of Medicine, St. Louis, Mo., in 1946 and interned at the Peoria Methodist Hospital.

Dr. Raymond R. Rembolt, former Associate Professor of Pediatrics and Executive Director of State Services for Crippled Children, Iowa City, was recently named Director of the Iowa Hospital-School for Severely Handicapped Children in Iowa City.

Dr. Robert Sautter, formerly of Cedar Rapids, has begun the practice of medicine in Mount Vernon. Dr. Sautter was graduated from the SUI College of Medicine in 1949 and served his internship in Fresno, Calif.

Dr. S. Rodmond Smith, Cedar Rapids, will begin the practice of medicine in Red Oak in August. He was graduated from the George Washington University College of Medicine, Washington, D. C. and recently completed his internship at St. Luke's Hospital in Cedar Rapids.

Dr. Richard A. Wheeler, Des Moines, has been released from military service and has returned to the private practice of medicine as an associate with Dr. E. Parish Lovejoy, with offices at 819 Equitable Bldg., Des Moines.

Dr. Ben T. Whitaker, Boone, President of the Iowa State Medical Society, was honored at a dinner May 31 at the Hotel Holst, Boone, by the Boone County Medical Society.

Dr. Dwight C. Wirtz, Des Moines, has been reappointed the Iowa Volunteer Chairman for the 1952 Polio Fund Appeal of the Sister Elizabeth Kenny Foundation.

DEATH NOTICES

Dr. Gael Myerly Adair, 67, Anita physician for 43 years, died May 17 at the Atlantic Memorial Hospital in Atlantic. Born in Kellogg, Dr. Adair was graduated from the Drake University College of Medicine, Des Moines, in 1909. At the time of his death, Dr. Adair was a member of the Cass County and Iowa State Medical Societies.

Dr. Henry Nicholas Bruechert, 69, Parkersburg physician for 44 years, died May 4 in the Waverly Mercy Hospital of a cerebral hemorrhage. Dr. Bruechert, born in Monticello, was graduated from the State University of Iowa College of Medicine in 1908. He was a member of the Butler County and Iowa State Medical Societies.

Dr. Frank H. Clark, 75, Clarinda physician since 1912, died May 23 at the Municipal Hospital in Clarinda. Dr. Clark was graduated from the College of Physicians and Surgeons, Chicago, Ill., in 1905 and was active in the practice of medicine until his retirement three years ago. He was a member of the Page County and Iowa State Medical Societies.

Dr. Clarence Neil Freligh, 75, Waucoma physician for 34 years, died May 14 at St. Joseph's Hospital in New Hampton. Dr. Freligh, who was born in New Sharon, was graduated from the Northwestern University Medical School, Chicago, Ill., in 1902. Dr. Freligh was a member of the Fayette County and Iowa State Medical Societies.

Dr. Harriet Spera Hamilton, 82, Council Bluffs physician since 1912, died May 29 in a Council Bluffs hospital of complications following a fall. Dr. Hamilton was graduated from the Creighton University School of Medicine, Omaha, Nebr., in 1912. She was a life member of the Pottawattamie County and Iowa State Medical Societies.

Dr. Henry D. Holman, 76, physician in Cerro Gordo County for nearly 50 years, died May 21 at his home in Mason City. Dr. Holman was graduated from the State University of Iowa College of Homeopathic Medicine, Iowa City in 1903. He was a member of the Cerro Gordo County and Iowa State Medical Societies at the time of his death.

Dr. Ernest Covey McClure, 78, Bussey physician for 40 years, died May 31 at the Bettendorf Masonic Home Hospital after a two and one-half year illness. He was graduated from the State University of Iowa College of Medicine in 1903, and was a life member of the Marion County and Iowa State Medical Societies.

Dr. Joseph Hugh McGready, 80, Independence pioneer physician, died May 11 at his home in Independence. Dr. McGready was graduated from the College of Physicians and Surgeons, Chicago, Ill. in 1896. At the time of his death he was a life member of the Buchanan County and Iowa State Medical Societies.

Dr. Henry L. Mol, 55, Grundy Center physician since 1926, died June 3 at the Allen Memorial Hospital in Waterloo following a heart attack. Dr. Mol received his medical degree from the Northwestern University Medical School, Chicago, Ill., in 1925 and interned at the Iowa Methodist Hospital in Des Moines. He was a member of the Grundy County and Iowa State Medical Societies.

Dr. Guy Pace Reed, 77, Davis City physician, died May 23. Dr. Reed was graduated in 1899 from the St. Louis College of Physicians and Surgeons, St. Louis, Mo. At the time of his death he was a life member of the Decatur County and Iowa State Medical Societies.

Dr. Robert J. Stolley, 31, New London and Burlington physician, died May 7 of injuries resulting from a traffic accident. He was graduated from the State University of Iowa College of Medicine in 1945 and completed his internship at the Denver General Hospital, Denver, Colo. He was a member of the Henry County and Iowa State Medical Societies.

Dr. Fred C. Wilson, 84, Colesburg physician for 55 years, died May 19 at his home after an 18 month illness. Born in Colesburg, Dr. Wilson was graduated from the State University of Iowa College of Medicine in 1897. At the time of his death he was a member of the Delaware County and Iowa State Medical Societies.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of June 10, 1952

| | |
|---|------------------------------------|
| Ackerman, J. H., Clarksville (Tallahassee, Fla.) | ...Senior, Asst. Surg., U.S.P.H.S. |
| Alberts, M. E., Des Moines (Seattle, Wash.) |Lt., U.S.N.R. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) |Major, A.U.S. |

| | |
|--|---|
| Bartholomew, R. D., Lake City (Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R. | Odell, J. E., Iowa City (Seattle, Wash.) .....Lt., U.S.N. |
| Bartley, R. L., Sully (FPO San Francisco, Calif.) .....Lt., U.S.N.R. | Ruble, R. L., Nevada (Camp Chaffee, Ark.) .....A.U.S. |
| Benge, D. K., Dows (APO San Francisco, Calif.) .....1st Lt., U.S.A. | Saunders, R. J., (Colfax) (Montgomery, Ala.) .....1st. Lt., U.S.A.F. |
| Braateliën, N. T., Des Moines (Camp Carson, Colo.) .....1st. Lt., U.S.A.F. | Schultz, M. H., Waterloo.....Capt., U.S.A.F. |
| Brown, R. C., Mason City (Kansas City, Kan.) .....Capt., A.U.S. | Shaffer, F. J., Iowa City.....Col., U.S.A.F. |
| Camp, J. R., Thompson (FPO San Francisco, Calif.) .....Lt., U.S.N.R. | Simonsen, M. N., Sioux City (Oakland, Calif.) .....Lt. Cmdr., U.S.N.R. |
| Carson, R. W., Winterset (APO San Francisco, Calif.) .....1st. Lt., A.U.S. | Smith, C. B., Iowa City (Fort Jackson, S. C.) .....Capt., A.U.S. |
| Coyne, K. M., Burlington (FPO San Francisco, Calif.) .....Cmdr., U.S.N.R. | Stutsman, R. E., Washington (Miami, Fla.) .....Cmdr., U.S.N. |
| Dalager, R. D., Ottumwa (Annapolis, Md.) .....U.S.N.R. | Tempel, P. F., Steamboat Rock (APO San Francisco, Calif.) .....Capt., A.U.S. |
| Davidson, M. C., Emmetsburg (APO New York, N. Y.) .....Col., A.U.S. | Thistlewaite, E. A., Des Moines (Riverside, Calif.) .....1st. Lt., U.S.A.F. |
| Davis, S. K., Des Moines (Seattle, Wash.) .....U.S.N.R. | Thomas, J. H., Rock Rapids (APO San Francisco, Calif.) .....Capt., U.S.A.F. |
| Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.) .....1st. Lt., U.S.A.F. | Tice, W. K., Iowa City (Kansas City, Kan.) .....1st Lt., A.U.S. |
| Dooly, J. E., Fort Dodge.....A.U.S. | Tyler, D. E., Shenandoah (Great Lakes, Ill.) .....U.S.N.R. |
| Fitch, R. E., Des Moines (Bangor, Me.) .....1st. Lt., U.S.A.F. | Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) .....Capt., U.S.A.F. |
| From, Paul, West Des Moines (San Antonio, Texas) .....1st. Lt., U.S.A.F. | von Lackum, L. S., Oelwein (Great Lakes, Ill.) .....Lt., U.S.N.R. |
| Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) .....U.S.A.F. | Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) .....Lt., U.S.N.R. |
| Greco, D. J., Des Moines (APO San Francisco, Calif.) .....1st. Lt., A.U.S. | Walz, D. V., Le Mars (Sioux Falls, S. D.) .....1st. Lt., U.S.A.F. |
| Gustafson, J. E., Des Moines (Far East Command) .....1st. Lt., A.U.S. | Wehrmacher, W. H., Iowa City (Oceanside, Calif.) .....U.S.N.R. |
| Jensen, K. V., Newton (San Antonio, Texas) .....1st. Lt., U.S.A.F. | Wiedemeier, J. L., Sioux City (Ft. Sam Houston, Texas) .....1st. Lt., A.U.S. |
| Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) .....1st. Lt., U.S.A.F. | *Wilkins, D. S., Iowa City (APO San Francisco, Calif.) .....Capt., A.U.S. |
| Johnson, F. N., Madrid (San Antonio, Texas) .....1st. Lt., U.S.A.F. | Witte, H. J., Marathon (San Francisco, Calif.) .....Lt. Col., A.U.S. |
| Johnson, M. H., Iowa City .....Capt. A.U.S. | Woolfolk, J. H., II, Waterloo (Weaver, S. D.) .....U.S.A.F. |
| Keil, P. G., Des Moines (Bangor, Me.) .....Major, U.S.A.F. | Zeilenga, R. H., Orange City (Madison, Wisc.) .....1st. Lt., U.S.A.F. |
| King, R. E., Des Moines (APO San Francisco, Calif.) .....Capt. A.U.S. | |
| Krause, R. E., Ottumwa (Camp Atterbury, Ind.) .....1st. Lt., A.U.S. | |
| Kruse, R. H., Conrad (Pearl Harbor, T. H.) .....Lt., U.S.N.R. | |
| Kurth, R. J., Waterloo (Panama City, Fla.) .....Capt., U.S.A.F. | |
| Landis, S. N., Des Moines (Shreveport, La.) .....Major, U.S.A.F. | |
| Leiter, E. R. K., Des Moines (Bangor, Me.) .....Capt., U.S.A.F. | |
| McCrary, W. A., Lake City.....Capt., A.U.S. | |
| Mangan, J. T., Forest City (San Diego, Calif.) .....Lt. (j.g.), U.S.N.R. | |
| Merkel, B. M., Des Moines (Greenville, S. C.) .....Col., U.S.A.F. | |
| Mitchell, R. C., Iowa City (Yorktown, Va.) .....Lt., U.S.N.R. | |
| Montgomery, A. E., Jefferson (APO San Francisco, Calif.) .....Lt. Col., A.U.S. | |
| Mulder, L., Sioux Center (Sioux Falls, S. D.) .....Capt., U.S.A.F. | |
| Neagle, P. E., Dubuque (APO San Francisco, Calif.) .....1st. Lt., A.U.S. | |
| Nicholson, R. W., Paton (APO Seattle, Wash.) .....1st. Lt., A.U.S. | |
| Nordin, C. A., Des Moines (Lackland Field, Texas) .....1st. Lt., U.S.A.F. | |

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a.m.

BEFORE THE DOCTOR COMES

| | |
|--------------|---------------------------------|
| July 3..... | Earache |
| July 10..... | Cuts and Scratches |
| July 17..... | Listless and Irritable Children |
| July 24..... | Bad Bumps |
| July 31..... | Bleeding |

WSUI—Tuesday at 11:45 a.m.

THE DOCTOR'S REPORT

| | |
|--------------|---|
| July 1..... | The Syracuse Hearing Center |
| July 8..... | Medical Aspects of Atomic Energy |
| July 15..... | Self-Help for Handicapped People |
| July 22..... | Psychiatric Treatment in Hospitals |
| July 29.... | Psychotherapeutic Process in Psycho-somatic Disease |

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, AUGUST, 1952

No. 8

PRESENT STATUS OF TREATMENT OF DISEASES OF THE THYROID GLAND

GEORGE CRILE, JR., M.D.
CLEVELAND, OHIO

THE TREATMENT of diseases of the thyroid gland is controversial, and I do not believe anyone can state authoritatively and finally what is the proper treatment for certain diseases of the thyroid. Therefore I wish to emphasize that any remarks which I may make are to be taken as my point of view at the present and not as a final evaluation of these problems.

One of the controversial issues is the treatment of hyperthyroidism. This was thought to be settled a few years ago when everyone believed that proper preparation with iodine, followed by thyroidectomy, was the preferred treatment. With the advent of antithyroid drugs and radioactive iodine the matter has again been thrown open to controversy.

In order to evaluate the various agents used in the treatment of hyperthyroidism it is first necessary to define the types of hyperthyroidism with which we have to deal.

First of all, we have what I term Graves' disease. Others call it exophthalmic goiter or diffuse goiter with hyperthyroidism. Whatever term you apply to it, it is a disease characterized by hypertrophy, hyperplasia and hyperfunction of the thyroid; and these changes appear to be imposed upon the thyroid as a result of some systemic, extrathyroid disturbance, probably with a large element of pituitary activity associated with it.

In contradistinction to this type of hyperthyroidism we have the nodular goiter with hyperthyroidism which appears to be quite different, in that there is a nodule or a group of nodules in the thyroid—adenomata, if you wish to call them that—which have developed an autonomous hyperfunction and appear to be independent of any systemic or extrathyroid stimulation.

The hyperthyroidism expresses itself in basically

the same way as far as the hyperthyroidism itself is concerned, but in the nodular goiter with hyperthyroidism one does not see the other evidences of disease such as exophthalmos which are present in Graves' disease.

The reaction of these two diseases to treatment is quite different. For example, with the surgical treatment of Graves' disease we find that if a conservative thyroidectomy is performed in which the surgeon takes most of the thyroid and leaves a varying unknown amount of the posterior portion of the gland for the protection of the recurrent laryngeal nerve and the parathyroids, the incidence of recurrence after operations for Graves' disease in patients followed over a period of five to ten years will run as high as 15 per cent.

If the much more radical procedure of removing almost all of the thyroid, preserving nothing but a little of the posterior capsule is followed, the incidence of recurrence in this condition can be as low as two per cent over the same period of time.

These recurrence rates are in sharp contrast to those in nodular goiter with hyperthyroidism. In nodular goiter, removal of the bulk of the adenomatous tissue, whether by an almost total thyroidectomy or by a much less complete operation, is followed by a low incidence of recurrence, averaging less than one per cent.

This is understandable because the adenomata which are solely responsible for the disease are removed, whereas in Graves' disease thyroidectomy does not remove the basic Graves' diathesis, nor has it affected in any way the pituitary, which still has every possibility of again stimulating the thyroid remnants. Unless total thyroidectomy has been performed there is always the possibility of recurrence in Graves' disease.

These two diseases also behave differently in respect to the incidence of hypothyroidism or myxedema following operations. In Graves' disease the incidence of hypothyroidism is relatively high. Following the radical type of operation, which is associated with such a low incidence of recurrence, the incidence of hypothyroidism of sufficient degree to require the administration of desiccated thyroid, at least temporarily, will be

Presented at the One Hundredth Meeting, Iowa State Medical Society, Sioux City, April 23-25, 1951.

From the Cleveland Clinic and the Frank E. Bunts Educational Institute.

as high as 20 per cent. Following a much more conservative operation, associated with a high incidence of recurrence, the incidence may be as low as only four or five per cent.

In nodular goiter with hyperthyroidism, whether you take almost all of the thyroid or whether you leave a considerable amount, myxedema is almost unheard of; even mild degrees of hypothyroidism do not often occur. The incidence of mild hypothyroidism is only two or three per cent.

The two diseases are quite different and you can see that the operation of thyroidectomy is quite ideally suited for the treatment of nodular goiter with hyperthyroidism. It not only removes the tumors of the thyroid, but it is associated with a negligible incidence of recurrence, as well as with a negligible incidence of postoperative hypothyroidism; whereas in Graves' disease you have a relatively high recurrence rate or a relatively high incidence of myxedema, depending upon the amount of thyroid which you remove.

Today the morbidity and the mortality of thyroid surgery is low. This is the result of preparation of the patient for operation with antithyroid drugs in all cases in which the hyperthyroidism is severe or the patient presents a poor surgical risk, and because it is not necessary to operate on all patients with Graves' disease, as it used to be. If the risk is extremely poor the operation can be deferred indefinitely and medical treatment continued as long as one wishes.

For these reasons the mortality rate has fallen to almost negligible levels, only a small fraction of a per cent. Thousands of operations would be necessary to determine exactly what this mortality rate is. It is basically the same mortality rate which accompanies operations for simple goiter because we are no longer operating on patients who have serious toxic manifestations of thyroid disease. These physiologic problems are compensated and corrected before operation and the only problem is the technical one of removing the goiter.

Morbidity is also low in thyroid surgery. With modern anesthesia in which the hyperthyroidism is controlled so the patient can tolerate prolonged anesthesia, a careful anatomic dissection can be done so the combined incidence of injury to a recurrent laryngeal nerve and tetany should not exceed one per cent.

Why should we treat either Graves' disease or nodular goiter with hyperthyroidism in any other way than by operation when surgery is a satisfactory way of treating it? The answer to this is obvious. First of all, no patient likes an operation if he can be cured easily and promptly by other means. What other means are there?

There are a host of antithyroid drugs which operate basically in the same way. Preferences differ, but we will take propylthiouracil as an example because it is about the most widely used, perhaps the least toxic and as effective as any antithyroid agent if given in proper doses.

Propylthiouracil, if given to an unselected group of patients with Graves' disease, will produce a remission of the hyperthyroidism in about 95 per cent of the patients treated when the dose is raised to 400 mg. or occasionally to 500 mg. The average daily dose is 300 mg. It is important that this be distributed throughout the day because the block on the thyroid which propylthiouracil effects lasts only for a few hours, and if you give it all in one dose or twice daily there are long periods in the day in which the thyroid is not blocked. It should be spaced and given four times daily.

If propylthiouracil is used and a remission is obtained, as occurs in the majority of cases of Graves' disease, what chance has the patient for obtaining a permanent cure? I believe the chances are about 50:50 if the treatment is properly conducted and maintained over a sufficient period of time.

Medical treatment must be as thorough as surgical treatment. No one knows why a subtotal removal of the thyroid or a treatment with an antithyroid drug can produce, in some cases, a permanent remission of the hyperthyroidism of Graves' disease. You would think that the same factors which stimulated the hyperthyroidism in the beginning would cause the gland remnants again to undergo hypertrophy and hyperplasia and result in recurrence of the disease.

We must view the action of these drugs, and perhaps also that of thyroidectomy, as merely interrupting some type of vicious circle. After this circle has been completely interrupted for a sufficient period of time the disease appears in some instances to enter a remission which may be long standing or even permanent.

It is important that this vicious circle be completely interrupted. Merely reducing the metabolism to plus 15 and alleviating the clinical symptoms so that the patient is satisfied is not enough. In addition it is necessary to abolish completely all evidence, clinical and laboratory, of hyperthyroidism, and to do this the basal metabolic rate must be driven to zero or less to relieve all the clinical symptoms of hyperthyroidism and to keep the patient in a euthyroid or even a hypothyroid state for long periods of time, preferably as long as a year.

We know that hyperthyroidism is somewhat cyclic, that spontaneous remissions occur, that some patients treated with iodine prior to the days of the antithyroid drugs underwent spontaneous remissions and remained well afterwards. Our object is to retain this remission long enough for the patient to have a good chance of going into a spontaneous remission and remaining well. The medical therapy must be complete.

There are certain types of patients with severe manifestations of Graves' disease in which it is extremely difficult to effect a cure by any means. It is this group of patients which is so apt to have recurrences after thyroidectomy and in which

it is extremely rare that a long standing or permanent remission follows medical treatment alone.

These are patients who have already had a recurrence following a thyroidectomy. They are of a resistant group. The recurrence shows they have a difficult form of the disease to manage and that medical therapy is not likely to be effective in obtaining a permanent remission.

Another group of patients have large goiters, exophthalmus and severe hyperthyroidism. Those people with severe Graves' disease tend to have recurrences after thyroidectomy as well as prompt recurrences after propylthiouracil therapy.

Any patient whose thyroid enlarges under treatment with an antithyroid drug tends to have a prompt recurrence after withdrawal of therapy. Enlargement of the gland under treatment should be taken as a contraindication to the further administration of the antithyroid agent and more definite forms of therapy should be used.

I think propylthiouracil is an effective drug if the patient understands clearly that you are not guaranteeing a cure, that her chances of obtaining a permanent remission are about 50:50 in a selected group of cases with mild hyperthyroidism, but a patient should not be told that medical treatment will cure her hyperthyroidism. You can tell the patient that chances are you can control it; whether or not you can cure it time alone will tell.

Radioactive iodine is different from propylthiouracil and is extremely effective. In treating some 500 hyperthyroid patients with radioactive iodine we have encountered only two patients with Graves' disease whose hyperthyroidism was resistant to ordinary doses of this agent. All others we have been able to control.

That means we have an agent which is effective with 99.6 per cent of patients treated. It is extremely effective compared to surgery or any medical agent at our disposal.

Radioactive iodine is of particular interest to the patient because, from the economic standpoint, it is the best means of treatment available. Patients treated with radioactive iodine do not require hospitalization. They do not need to be away from their work. They simply come in and drink a glass of what appears to be water, and within six to eight weeks about 65 per cent of them are well. A second treatment effects a remission in about 30 per cent of the remainder. There are only about five per cent who need additional treatments. The ease and economy with which it is done recommends it on every score.

There is a danger associated with radioactive treatment. The incidence of hypothyroidism is considerable, regardless how carefully one plans a dosage schedule. I think the situation is similar to that in thyroidectomy. The development of hypothyroidism after a thyroidectomy does not necessarily imply that the surgeon has made a technical error in removing too much thyroid,

nor does its development after treatment with radioactive iodine imply that too large a dose was given. It means that the hypothyroidism was controlled but the thyroid remnants, for some unknown reason, have gone into a remission.

We have seen this in patients with postoperative myxedema. We know they have a large amount of thyroid tissue left. Sometimes you can feel these thyroid remnants, yet the thyroid tissue is not functioning and the patient has myxedema.

One can only assume that something happens to the physiologic balance of the organism whereby the thyroid remnants go into reverse or stop working altogether. This may be temporary or it may be permanent.

After treatment with radioactive iodine the incidence of hypothyroidism of sufficient severity to require treatment will run about the same as an average radical thyroidectomy—somewhat between ten and 20 per cent.

Aside from this there is no known danger. The radioactive iodine has a half life of only eight days. That means a glass of radioactive iodine, left for eight days, is only half as active at the end of that time as it was in the beginning. Eight days later it has lost the rest of its activity. A month to six weeks after a dose of radioactive iodine is given there is little or no detectable radiation present in the body. Therefore there is no danger with this agent of retention of a long-acting isotope within the body, as there is with some of the other isotopes which are employed for therapy.

A second advantage is that the majority of the radiation is in the form of beta rays which penetrate the tissues for only two or three mm. because they are electrons and are stopped by tissue. The parathyroids and the surrounding tissues are in no way damaged by this radiation, even when huge doses are given.

The third reason this is a safe form of therapy is the chemical concentration of iodine within the thyroid. The thyroid reacts toward radioactive iodine exactly as it does toward stable iodine. In the presence of Graves' disease the thyroid can concentrate iodine by a factor of about 10,000 to one, as compared with the plasma, bone marrow, testicles, ovaries or any other organ in the body.

The amount of radiation received by the thyroid is thousands of times greater than that received by an other organ, while the amount of radiation received by other tissues is comparable to that received in x-ray examinations.

Why, then is there any hesitancy about giving radioactive iodine to people with hyperthyroidism? In our own institutions there is not complete agreement about the indications for this; some are quite conservative in selecting patients for treatment with radioactive iodine while others use it widely.

I believe there is little reason to fear the agent because no evidence of untoward remote results has as yet appeared in the ten years since the first

patients were treated with radioactive iodine. The only danger is the possibility that this agent might prove carcinogenic.

Radioactive iodine will not be carcinogenic anywhere except in the thyroid because the amount of radiation received elsewhere is negligible. The intense radiation in the thyroid admits the possibility of carcinogenicity.

We know that intensive radiation of the skin, when given over long periods of time, can ultimately cause ulceration of the skin, breakdown, chronic ulceration and eventually cancer. I do not believe that this is comparable to the thyroid because here we are thinking mainly of that type of radiation which is given in small doses over long periods of time.

The ordinary patient with excessive radiation in treatment for carcinoma of the breast may develop an ulcer there a number of years later that may become a chronic affair, ultimately breaking down and causing a cancer.

It is more in the nature of the ulcer to change to cancer than radiation change to cancer. Any chronic ulcer may become cancerous, whether or not radiation is in the background.

Since the thyroid is not subject to ulceration the analogy of the skin is not entirely correct. We have little evidence to indicate that radiation of internal organs, such as is given by interstitial radium and other intensive x-ray has caused cancer to develop. In the event that radiation should cause cancer of the thyroid at some remote time, it still would be possible to prophylactically remove these thyroids. You could reverse the process if any untoward events should follow, by removal of the radiated thyroid gland.

Nodular goiter with hyperthyroidism responds differently to radioactive iodine than does diffuse goiter of Graves' disease. It requires much more treatment and much larger doses of radioactive iodine. In Graves' disease the thyroid enlargement disappears completely, whereas in nodular goiter with hyperthyroidism the enlargement may get smaller, but it rarely disappears. The goiter persists.

Surgical removal of nodular goiter with hyperthyroidism is nearly an ideal treatment but radioactive iodine is not. It oftentimes requires a year or more before repeated doses of radioactive iodine (up to 100 to 150 millicuries) control hyperthyroidism, whereas in Graves' disease 15 millicuries will control the majority of patients treated.

I think the whole subject of the treatment of hyperthyroidism still must be left open. No final decision can be made. At the present time however, I am recommending the almost routine treatment of all patients with Graves' disease regardless of age, with small divided doses of radioactive iodine until the desired physiologic effect is obtained.

We have patterned our therapy after that of the

late Dr. Mayo Soley, and we have found that we can give the treatments at intervals of six to eight weeks. With a relatively low incidence of hypothyroidism most patients can be controlled fairly promptly, and apparently permanently. The incidence of recurrence has been only about one per cent over a three or four year period.

Another controversial problem connected with the thyroid is thyroiditis and its treatment. This disease is apt to masquerade as a number of other conditions. The commonest form of thyroiditis, subacute thyroiditis, is often missed in diagnosis. Histologically this is known as the giant-cell or pseudo-tuberculous thyroiditis. Clinically it may manifest itself by an exquisitely tender thyroid. High fever and very marked systemic symptoms may be associated with this condition.

It is not difficult to recognize thyroiditis in these cases. Unfortunately there are many other cases of milder degree with different manifestations in which it may masquerade as other diseases. Many patients come in complaining of a sore throat, unable to distinguish accurately between a sore pharynx and a sore thyroid. If you question them closely they will admit the sore throat is different from anything they have had before. Swallowing is painful and the thyroid is tender when touched.

The doctor may examine the lateral part of the patient's neck for adenopathy, disregarding the source of the difficulty. Many of these patients are treated for pharyngitis rather than for thyroiditis unless finally it is established that it is the thyroid which is tender.

Another type patient has had a sore thyroid a month or two before which passed as a sore throat. It was transitory, disappeared spontaneously, but left the patient with residual symptoms of fever or general malaise. These patients may come in with a diagnosis of fever of unknown origin. Their history of sore throat at the beginning of the illness may not be identified as thyroiditis unless a careful examination of the thyroid is made and the characteristic firm, symmetrical enlargement of the entire gland is felt.

The palpation of the thyroid itself is the key to the diagnosis because in this type of thyroiditis the entire lobe, often both lobes and the isthmus, are enlarged, hard and often tender. There are chronic varieties of this disease which give local symptoms in the throat other than tenderness, such as sensations of constriction.

The story these patients give resembles the functional state of globus hystericus. They are treated with sedatives, are reassured, yet the throat continues to trouble them. These thyroids are not usually large, and are difficult to feel if they lie low in the neck.

The pain from the thyroid may be referred either to the ear or to the jaw. The thyroiditis may go on as a chronic granulomatous type of infection for a year or longer.

The disease is self-limited; ultimately these patients make a spontaneous and complete recovery. But the course is long, and the patients are uncomfortable. It can be shortened either by the administration of thiouracil, as Dr. Bryan King has pointed out, by x-ray therapy or by giving ACTH. Propylthiouracil is not effective. X-ray usually affords prompt relief.

Small doses of x-ray accomplish a rapid and dramatic subsidence of the disease symptoms, including the inflammatory reaction. About 800 R are required. This does not change the function of the thyroid.

Patients who have been taking narcotics or are miserable, with high fevers, have had immediate relief within 24 hours of the first 150 R treatment or following administration of ACTH.

There are other types of thyroiditis. There is the struma lymphomatosa, more difficult to diagnose, which is usually interpreted as a nodular goiter. This is a hard, diffuse enlargement of the thyroid. It is a disease which goes on to irreversible changes and oftentimes is accompanied by hypothyroidism.

I do not urge use of needle biopsy in cases in which cancer is suspected because it may transplant the cancer tissue and make subsequent operation more difficult. In cases in which we strongly suspect the diagnosis of thyroiditis and other benign conditions the Silverman needle biopsy will allow you to establish the diagnosis, then x-ray therapy can be given and many operations avoided.

One of the most important and most controversial subjects is cancer of the thyroid and its relationship to benign adenomata. This problem cannot be settled on the basis of statistics alone. One needs a philosophy about cancer, its origin and its relationship to benign tumors to establish indications for treatment in a given case.

The ordinary large, diffuse multinodular goiter is filled with adenomata and nodules in various stages of involution and differentiation. The entire thyroid is involved.

This process is basically a physiologic one. It is like a chronic cystic mastitis in which all of both breasts are involved in the same physiological process, due no doubt to some basic endocrine or chemical stimulation.

It appears to be a stimulation of compensatory hypertrophy which initiates the process. It would be hard to do a subtotal thyroidectomy here without leaving diseased tissue.

If one believes that this is a premalignant lesion, it would be necessary to remove every vestige of thyroid tissue, or else leave the premalignant tissue.

Quite different from the multinodular goiter is the solitary adenoma of the thyroid, a tumor which has been present in otherwise normal thyroid for a number of years.

The solitary adenoma is a true tumor. It is like

a fibroadenoma or carcinoma of the breast, and it has malignant potentialities. It is not necessary to remove all of the thyroid. Remove the lobe which is involved, and the tumor is completely eradicated.

The solitary tumor is important because it is impossible to differentiate clinically the benign ones from the malignant. The only difference is that histologically the malignant tumors may invade the veins.

Another type of tumor is the papillary carcinoma which often has a small primary in the thyroid and large metastatic nodes in the lateral cervical region.

Even though many lymph nodes in the lateral cervical region may be involved with carcinoma the prognosis is excellent provided that an adequate operation is performed.

We have checked eight patients from five to 15 years after removal of over 20 involved lateral cervical superior nodes. All of them remained perfectly well.

It is important in these cases to bear in mind the cosmetic consideration of the operation because so many of these patients with papillary carcinoma are young, unmarried girls. In many of these cases the lower neck and thyroid area is involved, but the thyroid and involved nodes can be removed through an ordinary wide thyroidectomy incision. If that does not suffice, and if there are upper nodes involved and an anterior sternomastoid incision is employed, it is not necessary to deform the patient by removing the sternomastoid muscle, and it certainly is not necessary to employ roentgen therapy unless there is an unremovable recurrence. In our experience roentgen therapy is of little value in controlling this type of tumor.

In a group of 30 consecutive cases in which the patients have been followed from one to 15 years, in which we performed the primary operation upon the thyroid, there is no patient today who has either a local recurrence in the cervical region or any evidence of distant metastasis. This indicates that these tumors can be controlled by properly placed, conservative operations.

Occasionally one will have a recurrence elsewhere, out of the field of the initial operation. A small secondary operation will remove the lymph node; but the block dissection type of operation which sacrifices muscles and nerves of the neck and is widely used for squamous cell carcinomas of the mouth is of no greater value in the treatment of papillary carcinoma than removal of the lymph node groups.

These tumors may grow very slowly. In one case a biopsy was taken 27 years ago and showed papillary carcinoma. The patient refused all treatment. Today she has bilateral thyroid nodules, bilateral cervical nodules but none of them are over 1 or 2 cm. in diameter 27 years after the diagnosis was established.

Other papillary carcinomas of the thyroid may be much more malignant and may ultimately cause death if they are not removed completely. One patient came to us ten years after the initial operation, with a massive inoperable recurrence of a papillary carcinoma. X-ray therapy was given. It did little or no good, and about 15 years after the initial thyroidectomy he finally expired as a result of this local recurrence of the disease.

Radioactive iodine can be used in some of these carcinomas of the thyroid, but most of these low-grade types of carcinomas which we have been discussing are so easily treated by means of adequate surgical operation that they do not require any other form of therapy.

Radioautographs of papillary tumors of the thyroid show irregular take-up of radioactive iodine. Some areas take it up intensively, others take up practically none.

Some nodular goiters or carcinomas can be controlled by the use of repeated doses. We have seen one intrathoracic goiter which disappeared in response to repeated doses of radioactive iodine.

A metastatic papillary carcinoma of the thyroid with nodules throughout the lungs disappeared completely, all the nodules vanishing after treatment with radioactive iodine.

I_{131} is occasionally effective, but in the undifferentiated carcinomas, when we need it the most, radioactive iodine is not taken up. Since most of the low-grade tumors can be treated and cured surgically I_{131} is not often necessary.

Recently the *Journal of the American Medical Association* published an illustration showing how to remove a discrete adenoma of the thyroid. The picture shows the adenoma being enucleated from the thyroid tissue. We believe this is a very dangerous practice because:

(1) A benign or malignant adenoma cannot be determined before operation. You operate on it because it may be malignant.

(2) Papillary carcinomas are not encapsulated and not enucleable. They infiltrate the surrounding thyroid tissue. To attempt to do the operation as illustrated would inevitably leave carcinoma in the thyroid remnant.

(3) Sometimes these tumors are multiple primaries in the thyroid.

(4) Often they infiltrate the thyroid tissue diffusely.

The best way to treat suspected cancer of the thyroid is by the anatomic operation of total lobectomy on the affected side. The suspicious tumors are discrete adenomas. They should be removed by an anatomic dissection, including extra capsular ligation of the inferior thyroid artery, demonstration and preservation of the recurrent nerve and removal of this entire lobe.

Our philosophy is not one of prophylaxis against possible development of cancer of the thyroid in nodular goiters. Rather, we believe there are two types of goiters, the multinodular ones which are

basically physiologic, and the solitary ones which are basically neoplastic.

The younger the patient, the more likely is the tumor of the thyroid to be malignant. Involutionary nodules in areas of endemic goiter are common in the older age groups but they are extremely rare in the younger groups.

The peak incidence of papillary carcinoma of the thyroid which in our experience constitutes 60 per cent of all cancers of the thyroid is at the age of 29. That is the average age of patients with papillary carcinoma of the thyroid at the time the diagnosis is made.

In the young adult, and particularly in the child, any firm, discrete nodule of the thyroid should be removed.

The reason for its removal is not that it may become malignant. The urgent indication for its removal is that it may be carcinomatous at this time.

If the entire lobe is removed the incidence of local recurrence, the necessity for x-ray therapy, for radioactive iodine and for revisions of operation is largely eliminated. Every carcinoma should be recognized before the patient leaves the operating room. No incomplete operations on solitary, discrete tumors of the thyroid should be done.

If multinodular goiters are big, if they are toxic, if they are of cosmetic importance or if they cause pressure symptoms they should be removed; but indications for their removal are entirely different from those of the solitary tumor. Cancer rarely develops in this type of tumor and it is not to be considered a precancerous lesion. Deaths from cancer of the thyroid may best be prevented by the adequate treatment of the solitary, firm, discrete nodule of the thyroid.

DIAGNOSIS AND MANAGEMENT OF THYROID DISEASE

T. LYLE CARR, M.D., and members of the
Thyroid Clinic.*
IOWA CITY

RATHER THAN attempting to discuss the entire scope of diseases of the thyroid in this paper, we plan to consider only the problem of hyperthyroidism, its diagnosis and its therapy.

It is not necessary to emphasize to you the clinical signs and symptoms related to hyperthyroidism and their great value in establishing a diagnosis. In general, considerable help is obtained by careful evaluation of signs and symptoms that have been shown to occur after the

From the Thyroid Clinic of the College of Medicine, State University of Iowa and the University Hospitals, Iowa City.

* Members of the Thyroid Clinic include Titus C. Evans, Ph.D.; C. D. Janney, Ph.D.; Higdon B. Elkins, M.D.; C. G. Thomas, M.D.; Elmer L. De Gowin, M.D.; David W. Sinton, M.D.; S. B. Barker, Ph.D.; Henry E. Hamilton, M.D. and Walter M. Kirkendall, M.D.; all of Iowa City.

Presented at the 1952 meeting of the Iowa State Medical Society, Des Moines, April 27-30, 1952.

administration of excessive amounts of thyroxin or dessicated thyroid. These signs and symptoms are:

- 1. Catabolism is increased—weight loss occurs, increased excretion of urea.
- 2. Increased utilization of oxygen and formation of carbon dioxide.
- 3. Accelerated heat production.

6. There may be a marked increase in rate of speech as well as quick, rapid movements of the body, all of which may be immediately evident to you.

Most patients with a typical history and physical findings can readily be suspected, but every physician requests labratcry help as confirmation.

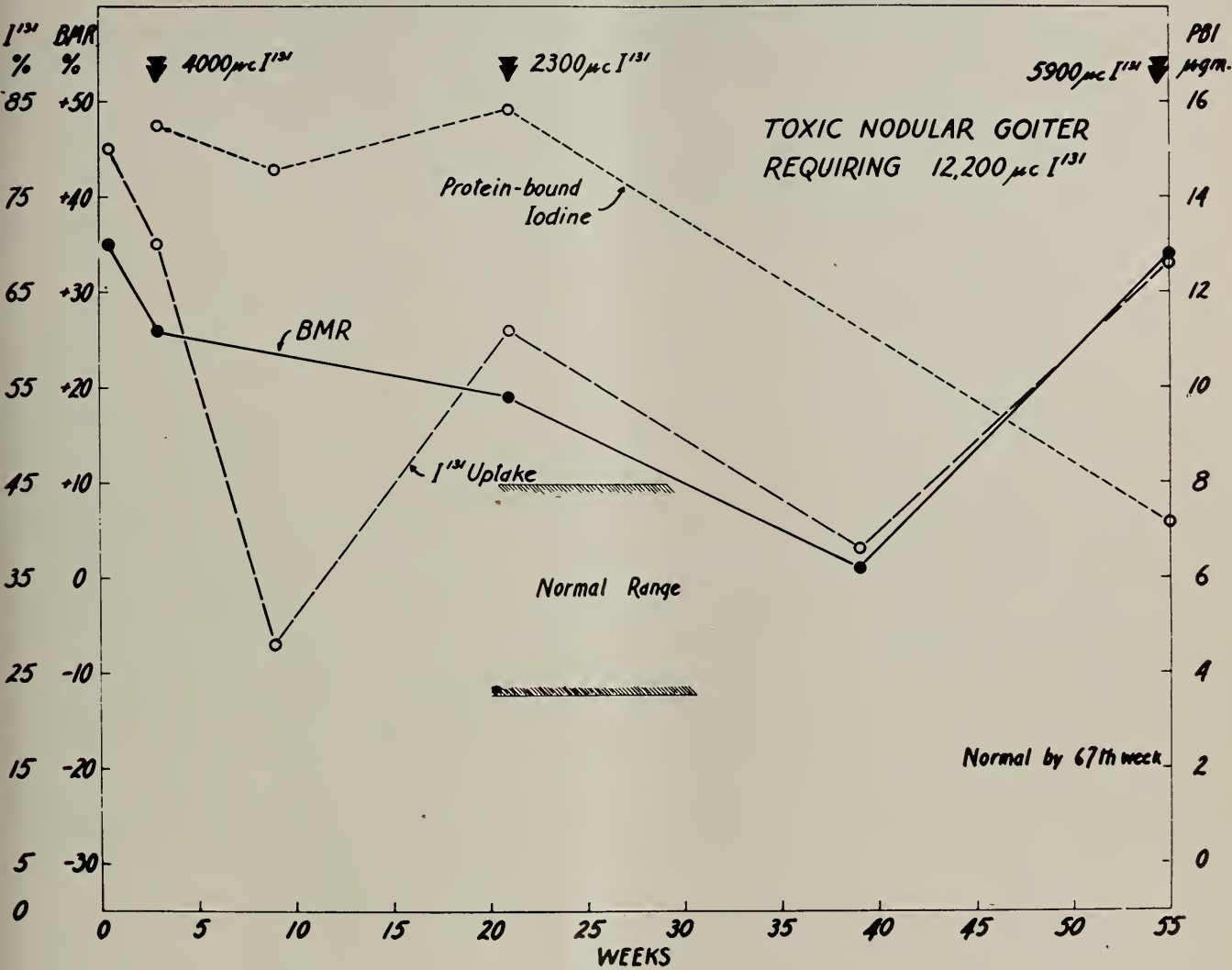


Figure 1

4. Increased pulse rate, pulse pressure, and rate of blood circulation.

5. Excess heat elimination results in sweating and hyperemia of the skin.

Clinically these findings are manifested by:

- 1. Loss of weight with an adequate or increased food intake.
- 2. An increased tolerance to cold as compared to associates.
- 3. The skin may be warm, moist, slightly flushed and smooth.
- 4. The pulse is rapid and full with a wide pulse pressure. It is absolutely irregular if auricular fibrillation is present.
- 5. The eyes may be prominent with wide palpebral openings.

There are certain tests available:

- 1. The rate of oxygen consumption under conditions of rest—usually called the basal metabolic rate.
- 2. The estimation of serum cholesterol.
- 3. The estimation of the protein-bound iodine of the blood plasma.
- 4. The measurement of the uptake of radio-iodine in the thyroid gland and its excretion in the urine.

These tests must, of course, be rated according to their availability, interpretation and value as well as their limitations.

One of the earliest and still most satisfactory tests of increased circulating thyroid hormone is the basal metabolic rate. It is readily available.

It depends upon the measurement of the amount of oxygen consumed by the body in a six minute period under standard conditions computed in terms of liters per square meter of body surface. The test is usually increased if any factors are increasing body metabolism. Therefore exercise, fever, leukemia and other generalized diseases increase the basal metabolic rate. Even a small leak in the breathing circuit will cause the determination to be high. Repeated tests are therefore more valuable than single determinations, and the usual clinical skepticism should be exercised when a high test is reported on a patient who does not show the clinical findings.

The blood cholesterol determination is available in most hospital laboratories, but it is more valuable in hypothyroidism than in evaluating hyperthyroidism. It is apt to remain in the normal range in hyperthyroidism.

The determination of protein-bound iodine in the blood shows good correlation with hyperthyroidism and hypothyroidism. It is a difficult procedure requiring special equipment, isolated from contact with iodine in any form, and therefore usually relegated to a room separate from a general clinical laboratory. The amount of protein-bound iodine measured is so small that the use of any iodine on the skin when drawing blood will make the result invalid as it will give too high a value to interpret. Other sources of difficulty include the recent ingestion of any iodine-containing preparation such as Lipiodol, Priodax, etc. Interpreted alone, the test has some limitations. If it is evaluated in conjunction with a radioiodine uptake study of the thyroid gland, it can be more accurately interpreted. We will refer to this again in a moment.

The radioiodine uptake of the thyroid gland is based on the fact that this gland is the only region of the body that will concentrate an appreciable amount of iodine. In 1939 Hamilton and Soley¹ showed that any ingested iodine¹³¹ not concentrated in the thyroid gland will be excreted in the urine over a fairly short period of time. This has been the basis for using the radioiodine thyroid uptake as a test of thyroid activity. A small dose of radioiodine is ingested (30 to 60 microcuries) and measurements are made over the thyroid gland in four and in 24 hours. The urine may be collected during this period also if desired, and measured for the amount of radioactive material excreted. If hyperthyroidism is present the thyroid gland usually will take up 40 per cent to 90 per cent of the small test dose, in contrast to 15 per cent to about 35 per cent in the euthyroid range and less than about 10 per cent in the hypothyroid patient. There is a slight amount of overlapping between these groups.

The effect of recent ingestion of iodine is to block the uptake of the test dose of radioiodine so the amount of radioiodine concentrated in the thyroid might be small no matter how active the

gland. Naturally, if the protein-bound iodine is markedly elevated, and the thyroid radioiodine uptake is low, we can often conclude that the patient has been receiving iodine in some form. Further careful inquiry will often disclose the source of the iodine.

It goes without further comment that the urinary excretion of radioiodine will be negatively correlated to the thyroid radioiodine uptake.

Of considerable importance also is the fact that radioiodine is apparently concentrated in the most active portions of the thyroid gland. This should be remembered when we later consider types of therapy, as the beta rays of iodine¹³¹ are stopped by about 2 mm. of tissue and are thus concentrated in the most active cells for maximum effectiveness.

There are three main types of goiter associated with hyperthyroidism and the condition does occur, but not frequently, with no demonstrable enlargement of the thyroid gland.

The diffuse toxic goiter is currently thought to be produced by excess production of the thyroid stimulating hormone from the anterior pituitary. The diffuse thyroid hyperplasia is objective evidence of the overactivity of the thyroid gland. Eye signs and symptoms may or may not be noted with the onset of the illness. They may appear during the course of the disease or they may become manifest only after treatment has been carried out. This type of goiter usually appears before 35 or 40 years of age. Malignancy occurring in this type gland is almost unknown.

The adenomatous or multiple nodular goiter may have been present for many years and finally be associated with clinical thyrotoxicosis. Eye signs are uncommon with this type of thyroid gland. It occurs in middle and old age. It may occur with the multi-nodular gland located behind the sternum so that no gland may be demonstrated clinically. Malignancy in such a gland with associated thyrotoxicosis is rare.

The solitary adenoma or nodule in a toxic goiter is rare. It is usually not associated with eye signs. It is much more apt to undergo malignant change.

When hyperthyroidism occurs with an apparently normal thyroid gland, it has been called apathetic hyperthyroidism. This is rare, but when it appears the patient is typically cachexic and usually in middle or old age. Although uncommon, it presents a problem because it often is unrecognized for a long time.

There are three main types of therapy for hyperthyroidism and in many individual cases it is difficult to select the best method of treatment. These include: (1) antithyroid drugs, (2) thyroidectomy after preparation with antithyroid drugs and (3) therapy with radioiodine.

Antithyroid drugs of the thiourea series prevent the synthesis of thyroid hormone from iodide and tyrosine. By blocking this synthesis, the previ-

ously produced and stored thyroid hormone is gradually dissipated without replacement. The symptoms and signs of hyperthyroidism will then slowly disappear. With 2-thiouracil, two of 70 patients treated by us developed agranulocytosis. Other toxic symptoms, as skin drug eruptions, also occurred. With 6n-propylthiouracil a much lower incidence of drug reaction has been reported with agranulocytosis appearing once in

lowing discussion will further clarify our position as to the value of antithyroid therapy.

Thyroidectomy, after adequate preparation with antithyroid drugs, is the treatment preferred for any patient with a solitary nodule because the nodule may be malignant. If the gland is excessively large or producing pressure symptoms because of its location, either above or behind the sternum, it too should be removed.

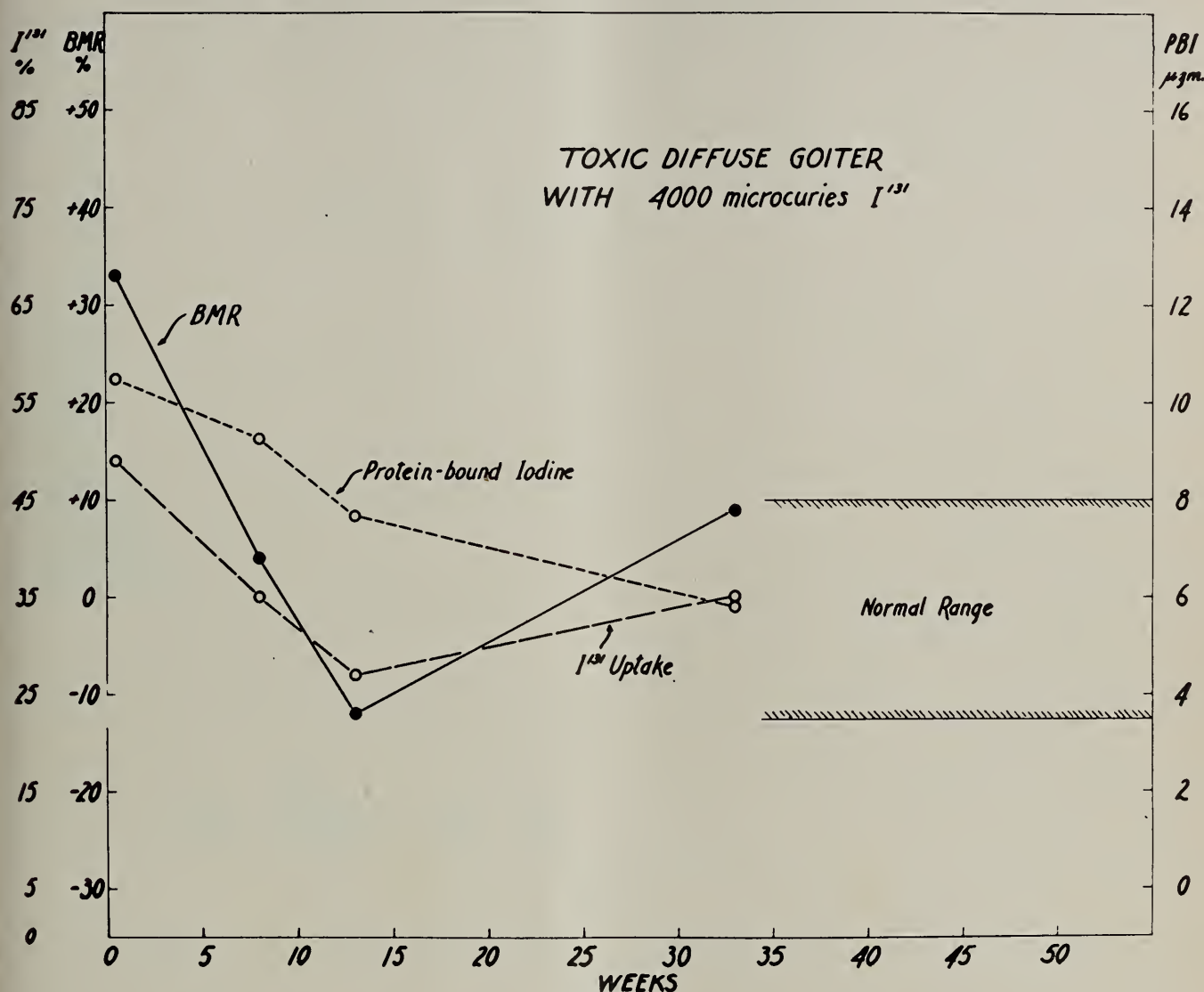


Figure 2

each 1,000 reported cases. This low incidence of toxicity has apparently been maintained by 1-methyl-2-mercapto-imidazole (tapazole, Lilly) with a smaller series being reported to date. Propylthiouracil and 1-methyl-2-mercapto-imidazole can be used as prolonged therapy or in preparation for contemplated surgery. When used as prolonged therapy, after the drug is stopped, from 25 per cent to 75 per cent will develop recurrence of hyperthyroidism.

Antithyroid drugs have the advantage of producing no discomfort, or lasting complications, and hospitalization is often not necessary. The fol-

Surgery for the well prepared euthyroid patient requires only a brief hospital stay and the mortality and recurrence rates are low. The inconvenience of operation, hospitalization and loss of work, the chance of loss of function of the recurrent laryngeal nerves or parathyroid glands, along with their financial connotations, must also be considered.

Treatment with radioiodine therapeutic, where it is available, does not require hospitalization, loss of work or operative procedure. It is easily administered by drinking it from a glass. Many are successfully treated with one dose and any recurrences are as easily treated the second time

as the first. The only complication is hypothyroidism and there is no parathyroid tetany or vocal cord paralysis.

The use of radioiodine in therapeutics is based on the same concepts already outlined for the use of radioiodine as a diagnostic agent. They are: (1) The radioiodine concentrates only in the thyroid gland, mostly in the most active portions of the thyroid gland. (2) All radioiodine not concen-

is the result of continuing participation by members of the Department of Radiology, Radiation Laboratories, Surgery and Internal Medicine, with the cooperation of the Department of Ophthalmology.

Therapy recommended for any patient is determined by a group of factors. We have been guided by the experience of other investigators^{2, 3, 4} and by our own experience. The indi-

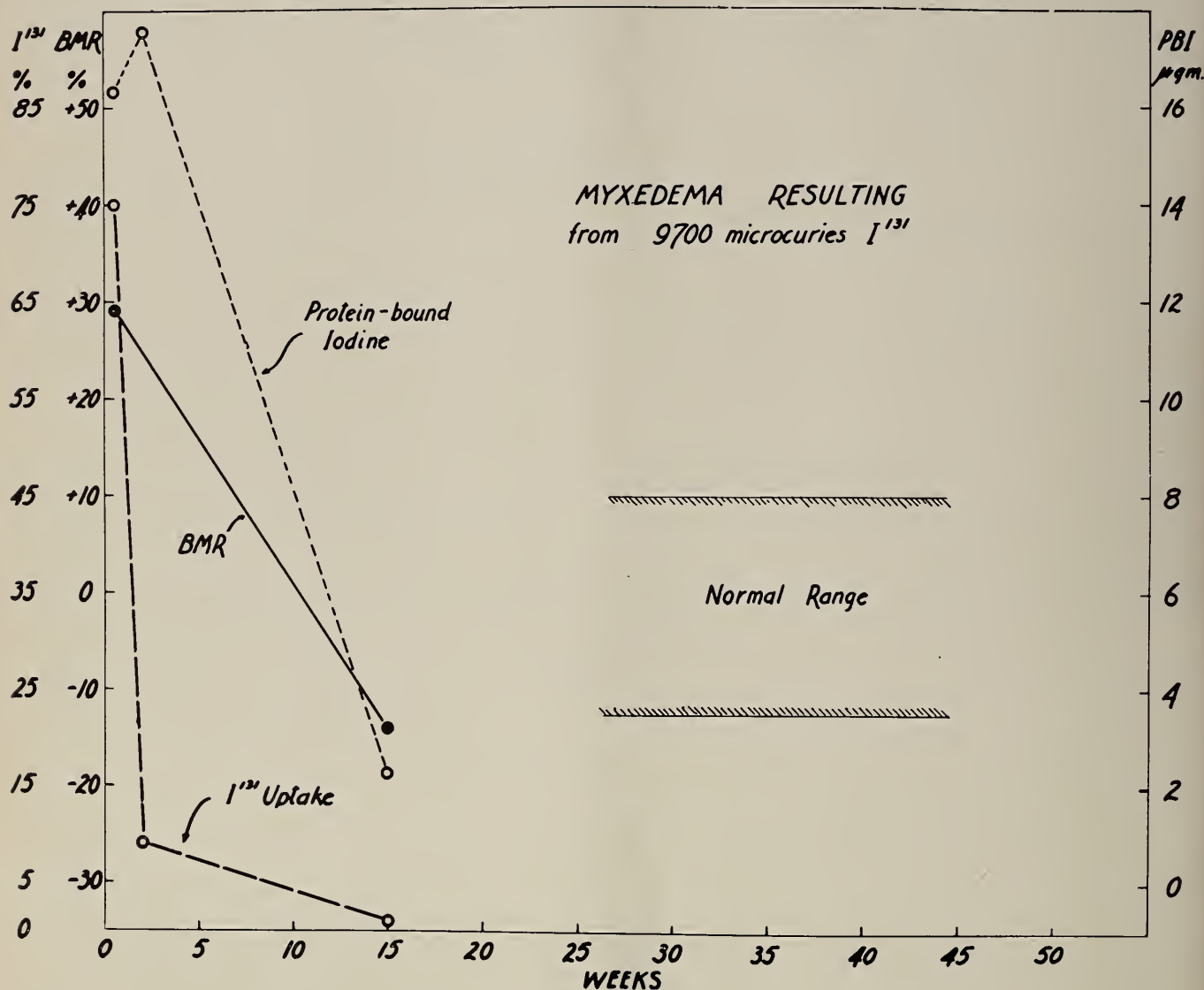


Figure 3

trated in the thyroid gland is rapidly eliminated in the urine. (3) Most of the effective radiation absorbed in the tissue is beta radiation. These rays are stopped by about 2 mm. of tissue. Therefore, the radiation remains concentrated in the portions of the thyroid which actually take up most of the iodine and therefore, most radiation occurs in the portions which are producing increased amounts of the thyroid hormone.

Since June, 1949, a Thyroid Clinic has met in the University Hospitals each Wednesday afternoon and considered patients who are presented because of diagnostic or therapeutic problems related to the thyroid gland. This Thyroid Clinic

cations for thyroidectomy are: under 35 years of age, nodular goiter, large or substernal goiter, pregnancy, low I^{131} uptake and a desire for histologic examination. The indications for radioiodine include: over 35 years of age, diffuse goiter, small goiter, previous thyroidectomy, intolerance to antithyroid drugs and a poor surgical risk.

As you can see, these are not hard and fast rules, but tend to allow consideration of the many factors that pertain to treatment of an individual patient.

We have treated 75 patients with radioiodine for hyperthyroidism. These included 17 with nodular

goiters, 51 with diffuse goiters, four with no palpable goiter and three unclassified. Previous thyroidectomy had been done upon 15 people. In six the recurrence was classified as diffuse glands, and in six, nodular glands were found. In three surgical recurrences no palpable thyroid tissue was demonstrable. A single dose of radioiodine produced a remission in 52 patients and multiple doses were required in the remaining 22 patients.

From January, 1950 to January, 1952 our surgeons operated upon 20 patients having hyperthyroidism with diffuse goiter and 24 with nodular goiter. They have, of course, operated upon many

always present between two treatment doses as the maximal changes could not be considered attained for that period of time.

Finally, the complications from treatment of 75 patients are:

| | No. | % |
|-------------------------------|-----|-----|
| Myxedema | 8 | 10% |
| Recurrent laryngeal injury .. | 0 | 0%- |
| Parathyroid injury | 0 | 0% |
| Radiation injury | 0 | 0% |

We have presented a discussion of the problems involved in the diagnosis and treatment of hyper-

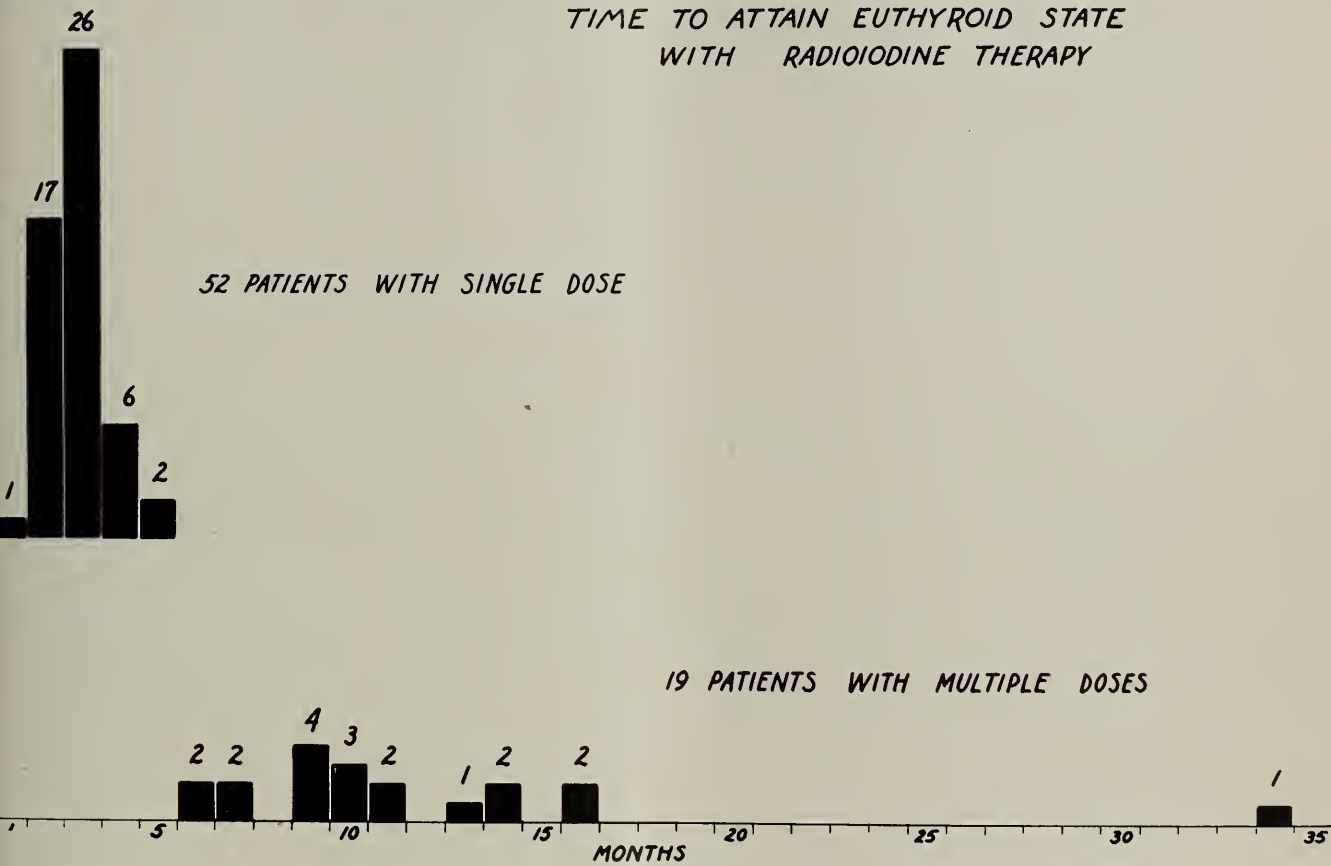


Figure 4

non-toxic solitary or multinodular goiters during this same period.

By way of illustration, Figure 1 will show an example of the course after therapy with radioiodine for a patient with a toxic nodular goiter. Note the difficulty we have in estimating the amount of radioiodine for adequate treatment of a multinodular goiter.

Figure 2 illustrates the course after therapy with radioiodine for a toxic diffuse goiter.

Figure 3 shows the occurrence of myxedema after treatment with radioiodine.

Figure 4 shows the time needed to attain the euthyroid state with radioiodine therapy. In evaluating this graph it should be remembered that patients were frequently not seen until three months after their treatment dose with radioiodine. An interval of three months or longer was

thyroidism. Usually treatment can be either surgery or radioiodine when the physician knows therapy will be adequate. The choice of therapy is difficult where complications or unusual circumstances exist. It is impossible to establish hard and fast rules that will fit all possibilities. Therapy in thyrotoxicosis must continue to be individualized, even though it is necessary to keep in mind certain basic concepts. We have attempted to outline some of these for you.

Until the cause of hyperthyroidism is found and more direct preventive measures or therapeutic agents are made available as a result, we will use these therapeutic measures directed toward the thyroid gland itself that are not only successful but safe.

BIBLIOGRAPHY

1. Hamilton, J. G.; and Soley, M. H.: Studies in iodine

metabolism by use of the new radioactive isotope of iodine, *Am. Jour. Phys.*, **127**:557-572 (October) 1939.

2. Williams, R. H.: Selection of therapy for individual patients with thyrotoxicosis, *JAMA*, **139**:1064-1068 (Apr. 16) 1949.

3. Cope, Oliver: Diseases of the thyroid gland (Part I concluded) hyperthyroidism, *New Eng. Jour. Med.*, **246**:408-417, (Mar. 13) 1952.

4. Stanbury, John B.: The choice of therapy in thyrotoxicosis, *Am. Prac.*, **2**:497-501 (June) 1951.

THE TREATMENT OF ALCOHOLISM WITH ANTABUSE

ROBERT C. LARIMER, M.D.
IOWA CITY

DURING THE PAST three years Antabuse (tetraethyl thiuram disulfide) has been widely heralded as a cure for alcoholism, both in the lay and in the medical press. Since this drug has recently been released for prescription use in the United States, it is believed worthwhile to preview the experience gained from following 193 patients in a clinic in which Antabuse has been used for two and one-half years,^{1, 2} and to present the indications and contraindications derived for this form of treatment as well as the complications which were encountered.

Alcoholism is no more a disease, as such, than is hypertension. These terms are used to describe syndromes, each characterized by a single outstanding feature which may have no relation to the ultimate prognosis and which may be due to a variety of pathological factors. As generally understood, an alcoholic is one who must drink; steadily or sporadically he is unable to remain sober. Patients with constitutional psychopathic personalities, anxiety neuroses, manic depressive psychoses or schizophrenia may develop a pattern of compulsive drinking, and may suffer from "alcoholism" and its sequelae, often to a point which obscures their more basic difficulties. The aims of treatment, therefore, should always be towards a correction of the underlying disease. However, it is usually impossible to accomplish this in the face of drinking. In general, a patient who has developed an alcoholic syndrome is inaccessible to treatment until he has stopped drinking.

In this, Antabuse is helpful. It has been proven³ that a person actually taking a therapeutically effective dose of Antabuse daily cannot drink. Psychotherapy, rehabilitation and the management of concurrent and often alcohol-induced disease can then be carried out; on the other hand, the patient may decide that the strain of sobriety is too great and that Antabuse is not worthwhile.

The commonest contraindication to Antabuse therapy is lack of motivation. Like herniorrhaphy, Antabuse treatment is an elective procedure; unlike surgical treatment, it is reversible. Unless

the patient is fully convinced that he must stop drinking and that he cannot remain sober without treatment, and unless he is at least partly aware of the difficulties he will encounter in a life in which alcohol must play no part, he will soon decide that the cure is worse than the disease. Attempts on the part of well-meaning family, friends or physicians to sell Antabuse are actually harmful, since not only is treatment apt to be discontinued but the resentment and distrust engendered will block further therapeutic progress. In our experience, patients who had (frequently literally) descended to the gutter and who had great difficulty in getting to the clinic had far better therapeutic results than those who were brought by their families or chauffeurs.

Certain psychiatric disorders, when they can be identified, are definite contraindications to this form of treatment. Psychoses which have developed in our clinic⁴ and elsewhere^{5, 6} have occurred in patients with basic schizophrenic thought disorder, and apparently made manifest only what was hidden by the more evident alcoholism. Seven of our patients became psychotic; Antabuse was discontinued in six, and after they were able to drink, the psychoses disappeared. One was treated by more conventional psychiatric means and recovered while still taking Antabuse. Patients who drink during cyclic depressions should not be given Antabuse. Several of our patients have attempted suicide by drinking large quantities of alcohol while premedicated with Antabuse.

Despite reports in the literature, diabetes is not a contraindication to Antabuse therapy if it is properly controlled with insulin. Dietary control alone is not adequate. One of our patients, followed for many years for other complaints and never known to have diabetes, was found in diabetic coma two weeks after beginning Antabuse; a year later, while well-controlled by a strict diet, three days' treatment with Antabuse provoked gross changes in his glucose tolerance.

Cirrhosis of the liver is also looked upon as only a theoretical contraindication. The chief biochemical action of Antabuse appears to be its inactivation of the enzyme (xanthine oxidase) responsible for the oxidation of acetaldehyde to acetate. This occurs in the liver, and Antabuse is thus a substance which interferes with liver function. Clinical evidence of decreased liver function due to Antabuse has not been reported, and since none of our patients had evidence of cirrhosis we have no experience in this aspect of treatment.

High blood pressure and arteriosclerosis may be regarded as partial contraindications. Since the Antabuse-alcohol reaction is regularly associated with a pronounced drop in blood pressure (v. i.), the danger of myocardial or cerebral infarct is assumed to be great. Actually, both of the deaths reported in the North American literature^{7, 8} seemed to be due to acute congestive failure with

From the Department of Internal Medicine, University Hospitals, Iowa City, Iowa.

right heart dilatation occurring in otherwise healthy adults; one occurred during the recovery phase of an Antabuse-alcohol reaction and the other one day after a reaction. One reported case apparently developed a myocardial infarct during a reaction.⁹ Two of our patients developed myocardial infarcts; neither had had a drink within six months. Another of our patients developed a cerebral infarct three days after starting to take Antabuse, and three weeks after his last drink. Again the relation of drug to accident is obscure.

The hazards of the Antabuse-alcohol reaction deserve special mention. It is the usual practice to subject all patients except those with clinically evident arteriosclerosis or hypertension to an "experience session." In this session the alcoholic drinks under medical supervision, after several days' observation, and after several days' pretreatment with Antabuse, and learns what is in store for him if he drinks in the future. Because of its unpleasantness it frequently produces a conditioned response against alcohol as well.

In this reaction, a flush and feeling of warmth appear on the face and spread over the body within a few minutes after drinking. There is palpitation, though tachycardia is rare, and marked dyspnea, with sighing respiration. There may be vertigo. A sense of precordial constriction may be present, and EKG changes may be noted at this time. The blood pressure usually shows a precipitous drop, often to shock levels. There follows a period of somnolence and stupor, which may approach coma. Muscle twitchings due to hyperventilation and tetany are common and may be mistaken for convulsions. After a period of sleep, usually lasting two to three hours, there follows a period of protracted and intense vomiting, often lasting an hour or more. This is usually followed by a further sleep, from which the patient usually awakens surprisingly refreshed. The entire reaction usually lasts from six to eight hours.

This reaction is always formidable.¹⁰ It is apt to be most unnerving to a physician who is not familiar with it and is not aware of the exceedingly low mortality rate. Although it may be reversed quickly by intravenous injection of either ascorbic acid or saccharated iron, the fact that symptoms are severe or that the patient seems to be in extremis should not frighten the physician into aborting what is, to the patient, a rewarding experience.

Obviously, the patient must be aware that he is taking a drug which renders him intolerant to alcohol. Antabuse has been given to alcoholics by well-meaning but misled wives (it is readily miscible with cream or butter, although sparingly soluble in water) and tragic accidents have occurred. As a prank Antabuse has been mixed with alcohol at a party but no ill effects were noted by the observers. Since a period of three

or four days must elapse before ingested Antabuse becomes fully effective, it is unknown what might happen were this situation to continue for such a period of time.

Antabuse itself seems to provoke reactions in patients. Some of these are apparently directly attributable to the drug; others can only be ascribed to the anxiety aroused in an alcoholic deprived of his crutch. An almost universal complaint is drowsiness. This usually appears during the first week of therapy, when large doses are given and gradually subsides during the next four to six weeks. Benzedrine and desoxyephedrine have proved to be of great value in ameliorating this symptom which is occasionally incapacitating. Gastrointestinal disturbances, chiefly anorexia, diarrhea or constipation, are somewhat less frequent, appearing in about two thirds of our cases. Again, these symptoms were most pronounced early in the course of therapy but seemed related to anxiety of forced withdrawal. Brief, directive psychotherapy was of greatest value in relieving these complaints.

Impotence was noted by many of the men in our group but actually complained of by only a few. It frequently persisted for many months, if severe, and was resistive to the fairly superficial psychotherapy which could be carried out in our setting. It was found that the majority of patients with troublesome impotence had previously been potent only while drinking. In such cases the patient must choose between alcoholism and impotence, unless he is prepared to undertake full-scale exploration of his personality difficulties.

Six of our patients developed skin rashes of the eczemoid type; these were amenable to pyribenzamine and did not recur on lowered doses of Antabuse. Three patients had incapacitating recurrences of previously-noted biliary colic; one underwent surgery but failed to gain relief after cholecystectomy and exploration of the common duct. One patient developed an anemia, apparently aplastic, while on Antabuse; after the drug was discontinued the blood picture returned to normal. As mentioned above, two of our patients developed myocardial infarcts and one had a cerebrovascular accident. One case of latent diabetes became manifest.

SUMMARY

Antabuse is a valuable adjunct to the treatment of patients whose compulsive drinking is the presenting feature of their psychiatric difficulties. Its use should be restricted to non-psychotic patients who are well-motivated towards treatment. It should be used with caution in patients with coexistent diabetes, cirrhosis, elevated blood pressure and arteriosclerosis.

Various untoward reactions occurring in a series of 193 patients observed personally, and those reported by others, are presented. These

include somnolence, gastrointestinal disturbances, impotence and psychosis.

BIBLIOGRAPHY

1. Gelbman, F.; and Epstein, N.: Initial clinical experience with Antabuse. *Canad. M.A.J.*, **60**:549-552 (June) 1949.
2. Larimer, R.: Treatment of alcoholism with Antabuse. *JAMA* (In press).
3. Martensen-Larsen, O.: Treatment of alcoholism with a sensitizing drug. *Lancet*, **2**:1004-1005 (Dec. 25) 1948.
4. Epstein, N. B.; and Guild, J.: Further clinical experience with tetraethylthiuram disulfide in the treatment of alcoholism. *Quart. J. Stud. Alcohol.*, **12**:366-375 (September) 1951.
5. Bennett, A.; McKeever, L.; and Turk, R. E.: Psychotic reactions during tetraethylthiuramdisulfide (Antabuse) therapy. *J.A.M.A.*, **145**:483-484 (Feb. 17) 1951.
6. Usdin, G. L.; and Robinson, K. E.: Psychosis occurring during Antabuse administration. *Arch. Neurol. & Psych.*, **66**:38-43 (July) 1951.
7. Jones, R. O.: Death following the ingestion of alcohol in an Antabuse treated patient. *Canad. M. A. J.*, **60**:609-612 (June) 1949.
8. Steckler, P.; and Harris, L.: Preliminary report on Antabuse therapy for alcoholism. *Psych. Quart.*, **25**:91-96 (January) 1951.
9. Macklin, E.; Sokolow, M.; Simon, A.; and Schottstaedt, W.: Cardiovascular complications of tetraethylthiuramdisulfide (Antabuse) treatment of alcoholism. *JAMA*, **146**:1377-1381 (Aug. 11) 1951.
10. Bell, R. G.; and Smith, H. W.: Preliminary report on clinical trails of Antabuse. *Canad. M. A. J.*, **60**:286-288 (March) 1949.

RESECTION IN THE TREATMENT OF
PULMONARY TUBERCULOSIS

CHARLES W. GRAY, M.D.
OTTUMWA

IN THE TREATMENT of tuberculosis, pulmonary resection has risen to a position of major interest and importance. Its rise has been of recent origin, supported by the advances made during the past decade in surgical technics, developments in anesthesiology and transfusion methods and in chemotherapeutic and antibiotic attacks on infections. Foremost among the antibiotic agents in this connection has, of course, been streptomycin which is

Presented at the One Hundredth Session, Iowa State Medical Society, Sioux City, April 23 to 25, 1951.

the most important factor in making resection feasible and profitable.

The purpose of this paper is to present data concerning the patients hospitalized at the State Sanatorium at Oakdale who have had resection for their pulmonary tuberculosis, and to mention cur-

TABLE 1
SEX AND AGE DISTRIBUTION

| MALE | | FEMALE | | TOTAL | |
|------|--|--------|--|-------|--|
| 9 | | 44 | | 53 | |



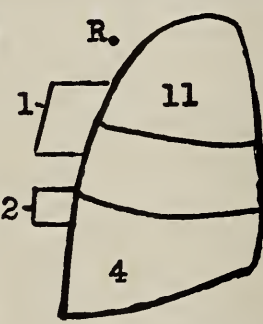

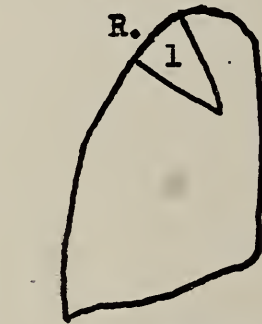

| EXTREMES 12 AND 71 YEARS—AVERAGE 37 YEARS | | | | | | |
|---|-------|-------|-------|-------|---------|-------|
| 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | over 60 | Total |
| 4 | 12 | 19 | 12 | 4 | 2 | 53 |

rent medical thought regarding this form of therapy. Many problems are posed and many answers have not yet been satisfactorily provided.

There have been 53 resections in the same number of patients between November, 1934 and March 1, 1951, with a distribution of 44 females and nine males. The age distribution shows four patients under 20 years, 12, 19 and 12 patients in the next three decades of life; four patients in their fifties, one in her sixties, and one in her seventies. The age extremes were 12 and 71 years, with an average of 37 years. Racial factors are unimportant in this series, as all were white except for one patient each of Chinese, Indian and Mexican descent.

Concerning types of resections our records show there were 26 pneumonectomies, 18 on the left and eight on the right. There were 25 lobectomy operations; the right upper lobe leading with 11, the left lower next with five, followed by the right lower lobe in four instances, the left upper lobe in two, right middle and lower lobes in two, and the right upper and middle in one. Two seg-

TABLE 2
PROCEDURE AND CHRONOLOGIC DISTRIBUTION

| TYPE OF RESECTION | | | | | | | | | | | | |
|---|------|---|------|---|------|---|------|---|------|---|--------------------|-------|
|  | |  | |  | |  | |  | |  | | |
| Pneumonectomy 26 | | | | Lobectomy 25 | | | | Segmental 2 | | | | |
| YEAR OF RESECTION | | | | | | | | | | | | |
| 1934-1946 = 14 | | | | | | 1947-1951 = 39 | | | | | | |
| 1934 | 1935 | 1940 | 1941 | 1942 | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | To March 1 1951 | Total |
| 1 | 1 | 6 | 2 | 1 | 1 | 2 | 2 | 7 | 10 | 16 | 4 | 53 |

mental resections were done making the total 53. The vast majority of the surgery was done at the University Hospitals in Iowa City.

The chronological distribution of the resections is of some interest. The table shows one each in 1934 and 1935, six in 1940 when interest in resection was spurred by the change to individual ligation technic for the hilar structures; two in 1941, one each in 1942 and 1945 and two in 1946. For the purpose of this paper, these first 14 cases

Patient Number 1 had a lower lobectomy performed under the mistaken diagnosis of non-tuberculous bronchiectasis in 1934. Tuberculous empyema with draining fistulae developed and persisted along with positive sputum until her death nearly three years later.

Of the 10 deaths, nine occurred in the early or late postoperative period without the patients ever regaining good health. Several were poor-risk candidates for whom resection was done as a

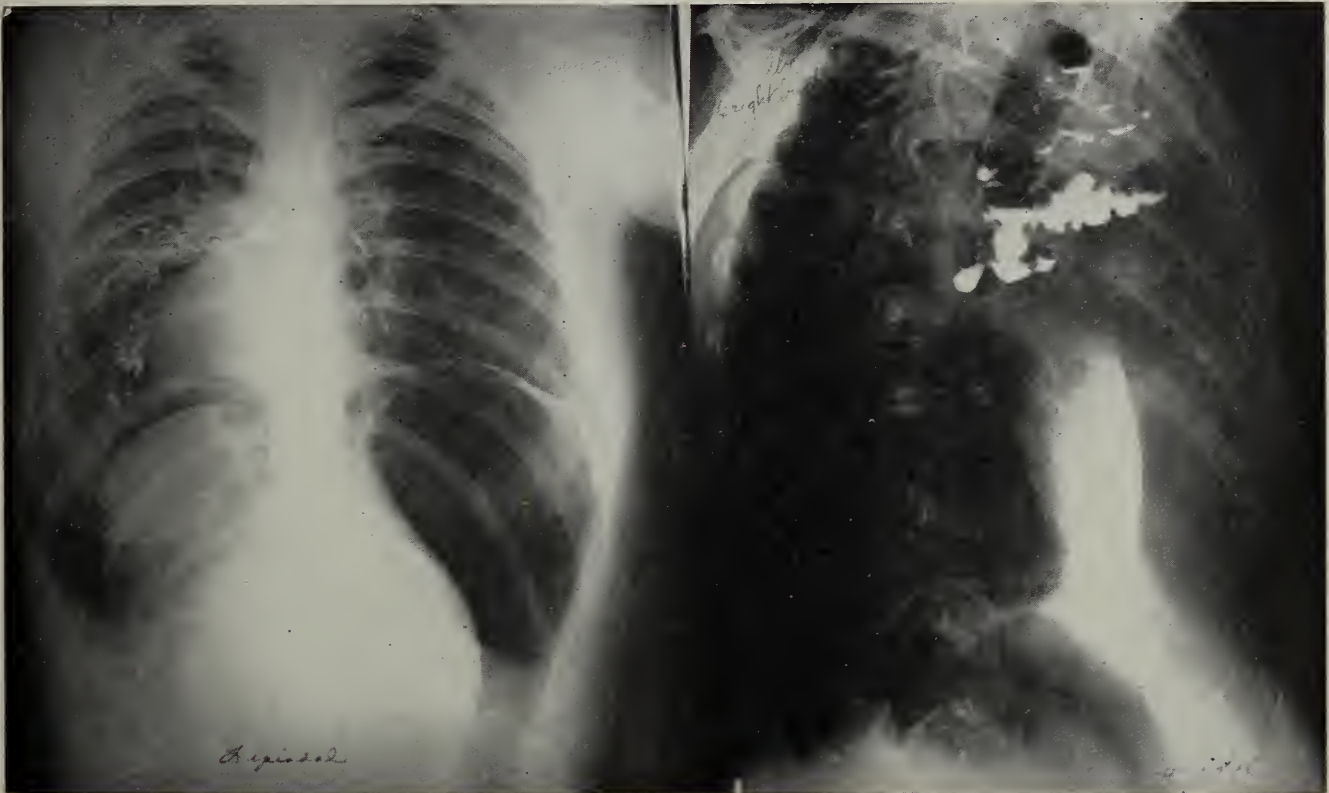


Figure 1A

Figure 1B

will be dealt with separately from the remaining 39 patients whose resections were done later. They include two in 1947, seven in 1948, ten in 1949, 16 in 1950 and four in the first two months of 1951.

The first 14 patients are considered separately

| 1934 to 1946 | | | |
|--|--------------------------------------|---------------------------------|-------|
| Early and late deaths without regaining health | Died after 7 years, well and working | Alive and well, average 8 years | Total |
| 9 | 1 | 4 (2 have fistulae) | 14 |

because none of them received streptomycin; some of them had resection by the guillotine technic and others by the individual ligation technic, and their surgery was performed in several different eras with regard to effective antibacterial protection. This group cannot be compared with the streptomycin-treated group because its number is too small for statistical reliability.

desperation measure. One died of cor pulmonale after seven years, during which time she was well and worked full time. Of the four survivors,

| TABLE 4 PNEUMONECTOMY INDICATIONS AND RESULTS— 16 PATIENTS | | | |
|--|-----|-----------------|-------------------|
| INDICATIONS | No. | % OF TOTAL | |
| Bronchostenosis and/or destroyed lung or lobe | 8 | 50 | |
| Extensive disease unsuited to other therapy | 5 | 31+ | |
| Diagnostic exploration | 1 | 6+ | |
| Thoracoplasty failure | 1 | 6+ | |
| Primary elective procedure | 1 | 6+ | |
| RESULTS | | | |
| Mortality | 2 | 12.5 | |
| Observation period of survivors | | 16 months | |
| Major complications (empyema, bronchial fistula, progressive spreads, etc.) | 4 | 25 | |
| Non-threatening spread and exacerbations | 1 | 6+ | |
| Sputum in survivors adequately studied | 7 | NEGATIVE 70% | POSITIVE 3 30% |

two had pneumonectomies and are well after four and one-half and 11 years respectively; the other two had lobectomies, are home and in good clinical condition.

ical condition after six and 11 years respectively, but have bronchopleural cutaneous fistulae.

Of the remaining 39 patients constituting the group resected since 1947, 16 had pneumonectomy, 21 had lobectomy operations and two had segmental resections. The indications for resection in the pneumonectomy patients were as follows: Bronchostenosis and/or destroyed lung, eight; extensive disease not suitable for other forms of therapy, five; diagnostic exploration, one; thorac-

due to tuberculosis and half on a non-tuberculous basis. The major complication rate is 25 per cent and the minor complication rate is six per cent. The sputum conversion rate in the survivors is 70 per cent.

For the 21 patients having lobectomy operations during the period of streptomycin availability, the following indications were present: bronchostenosis and/or destroyed lobe, six; diagnostic exploration, four; extensive lower lobe disease, thorac-



Figure 2A



Figure 2B

oplasty failure, one; and as a primary elective procedure, one. Of these 16 pneumonectomy patients, one died ten weeks postoperatively as a result of bronchial fistula with tuberculous empyema, plus a contralateral spread of her disease. A thick-walled residual apical cavity under a thoracoplasty had been broken into at the time of resection. One other patient died nine months after surgery as a result of psychosis, with apparent successful recovery from her tuberculosis.

The average period of follow-up in the 14 survivors is now 16 months. Three of them have empyemas, one tuberculous, one non-tuberculous and one not yet classified. Bronchial fistula is present in one and absent in the other two. One other patient had a contralateral spread of her disease which cleared. Sputum conversion to negative occurred in seven, and failed in three patients who have been observed for a sufficient period of time to permit classification, using six consecutive monthly sputum concentrates or cultures as an arbitrary basis. The results in the pneumonectomy patients are summarized as follows: There were no operative deaths, and the over-all mortality rate is 12 and one-half per cent, half of it

oplasty failure, and as an elective primary procedure in preference to thoracoplasty, three each; tuberculous bronchiectasis, two. There was one death on the sixth postoperative day due to pulmonary congestion, occurring in one of the bilobectomy patients.

The average period of follow up in the 20 survivors is now 18 months. One patient developed a bronchial fistula and tuberculous empyema in addition to progressive contralateral disease. Two other patients developed contralateral spreads, one early which has cleared and one late which is clearing. By the standard used in the pneumonectomy group, sputum conversion to negative occurred in 11 and failed in five patients who have been observed adequately for classification. The results in the lobectomy group are summarized as follows: There were no operative deaths, and the over-all mortality rate is slightly under five per cent. The major complication rate is five per cent, and the rate of minor complications is ten per cent. The sputum conversion rate is 69 per cent.

The two segmental resections were for solid tuberculous lesions, the so-called tuberculomas. Both patients have gotten along well with no diffi-

culties. One of them was not given streptomycin as a prophylaxis.

Considering the modern era series as a whole, the over-all mortality rate is eight per cent, with that due to tuberculosis standing at five per cent; the rate of major complications is 13 per cent and of minor complications eight per cent; the sputum conversion rate is 69 per cent.

COMMENTS

There are certain indications for pulmonary re-

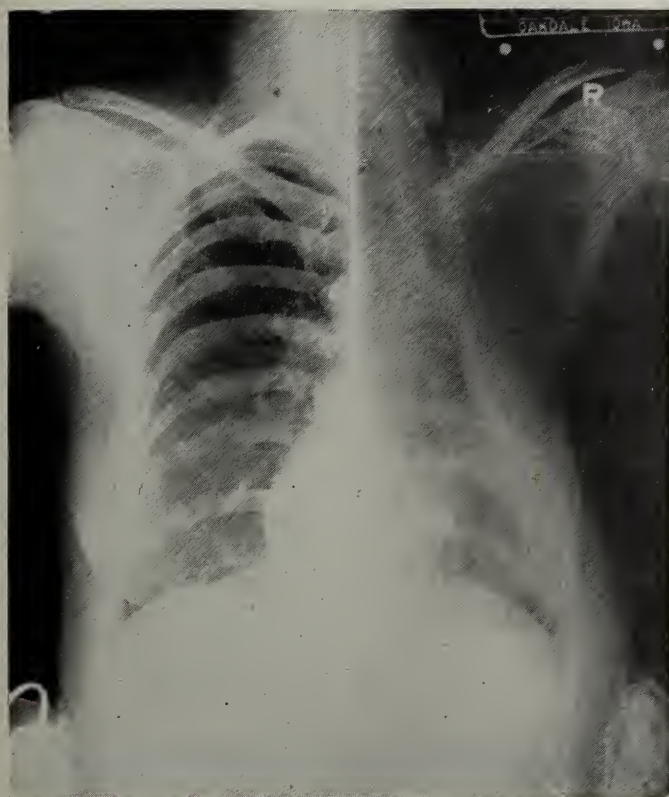


Figure 3A

section in tuberculosis which have fairly universal acceptance. There is the group of patients with a destroyed lung or lobe, in which the organ is retracted, atelectatic, bronchiectatic and sometimes occupied by cavitation, which respond poorly to other forms of therapy and are best treated by resection. There are some authors, probably a minority, who feel that such patients should first be treated by complete thoracoplasty, followed by resection in those instances where sputum conversion does not occur. Closely related etiologically to the group with destroyed lung or lobe are those patients who have high-grade, irreversible bronchostenosis. Bronchial constriction of significant degree, usually on the basis of endobronchial tuberculosis, thwarts most efforts at collapse procedures and does not yield to antibiotic therapy, thus leaving resection as the main hope in treatment.

Failure of a satisfactory thoracoplasty to close cavities and convert the sputum constitutes a third widely accepted indication for resection. Revisions of apparently satisfactory thoracoplasties are at-

tended by a low rate of sputum conversion and the various other approaches in these patients are also disappointing. Another indication for resection is the solid tuberculous lesion, or tuberculoma, as these lesions are prone to reactivation and spread of their bacilli-laden contents. A final non-controversial indication for resection is found in those cases where exploratory thoracotomy is done for diagnosis and the lesion is discovered to be tuberculous.

There is less agreement as to the necessity and



Figure 3B

advisability of resection in the following types of cases:

1. Tension cavities.
2. Giant cavities, especially in the vertebral gutter.
3. Cavities which have reopened following apparently effective pneumothorax.
4. Lower lobe cavitation.
5. Upper unilobar disease in children and youths, especially where the alternative is thoracoplasty with its attendant severe chest deformity in those age groups.
6. Lesions near the hilus or in such locations where other measures would result in extensive collapse and functional loss of considerable normal lung tissue.
7. Chronic fibrocaceous scattered lesions with their notable resistance to collapse.
8. Non-expansive or captive lung.
9. Acute exudative disease, where the high mortality and complication rates with resection are felt by some authors to be justified in view of

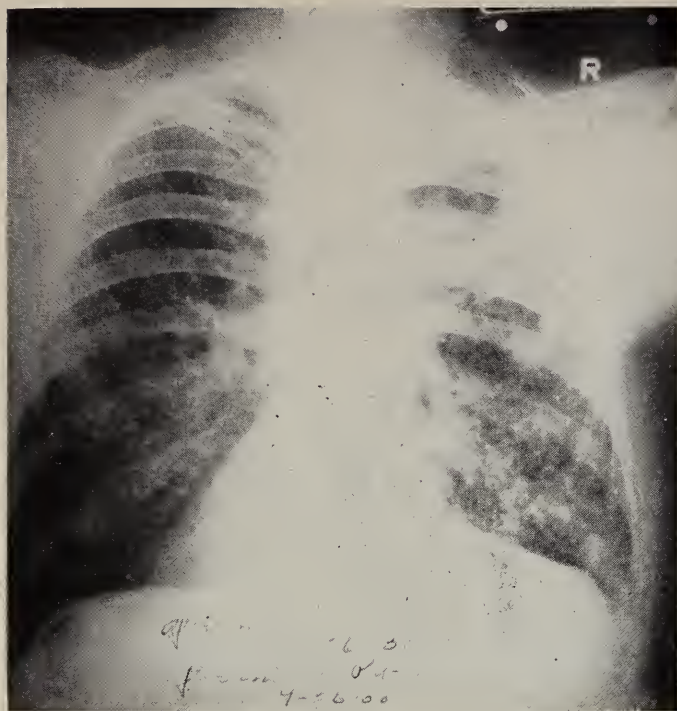


Figure 4A



Figure 4B

the poor prognosis under conventional forms of therapy.

10. Purely elective, as an alternative to thoracoplasty.

The type of resection to be done generally depends upon the location and type of tuberculous lesion. The choice between pneumonectomy and lobectomy is usually not difficult, but the recent emphasis on segmental resection can be expected

to provoke difficult decisions concerning its use. One well established fact concerning tuberculosis must be kept in mind, namely that this disease is *rarely if ever localized*, so that extirpation is seldom complete. Resection should be thought of as removal of the main offending focus, with residual foci being left behind in the remaining lung, lobes, or segments, the bronchi, lymph nodes and pleural layers. These residual foci are active, indolent (or

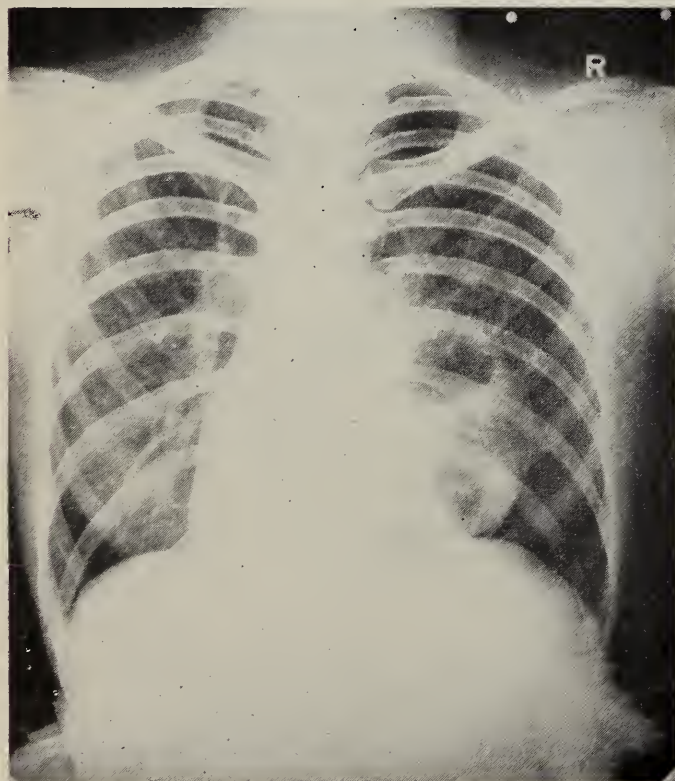


Figure 5A

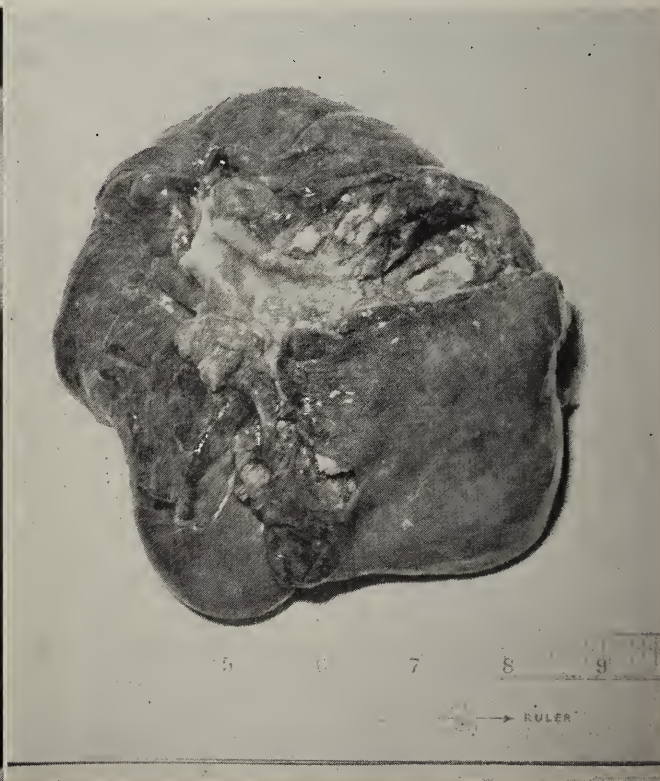


Figure 5B

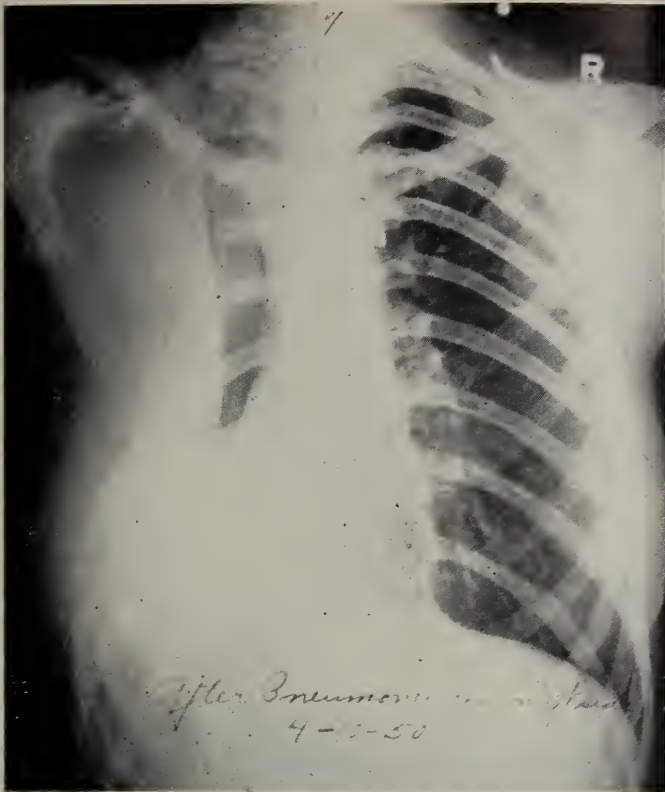


Figure 6A

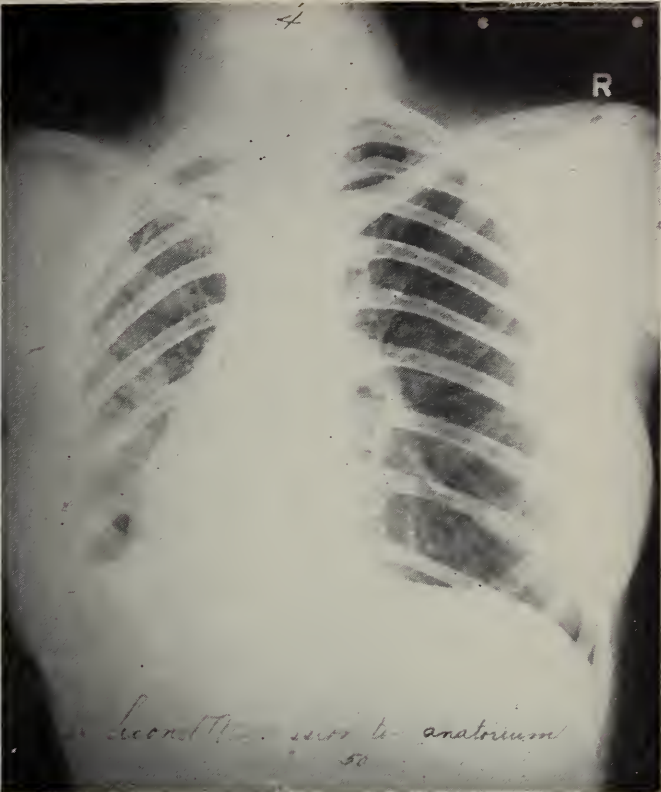


Figure 6B

smoldering) or arrested, and their proper classification in these categories should be taken into account in deciding on resection as well as in planning postoperative treatment. Thus it is felt that a six months' period of bed rest following resection is needed, plus other therapeutic measures as indicated.

Morbidity following resection depends mainly on the status of the bronchial stump. Bronchial fistula may develop early due to failure of primary healing, or late due to ulceration from endobronchial tuberculosis at the site of transection. The resulting tuberculous empyema gives a poor prognosis. Massive contamination of the pleural



Figure 7A

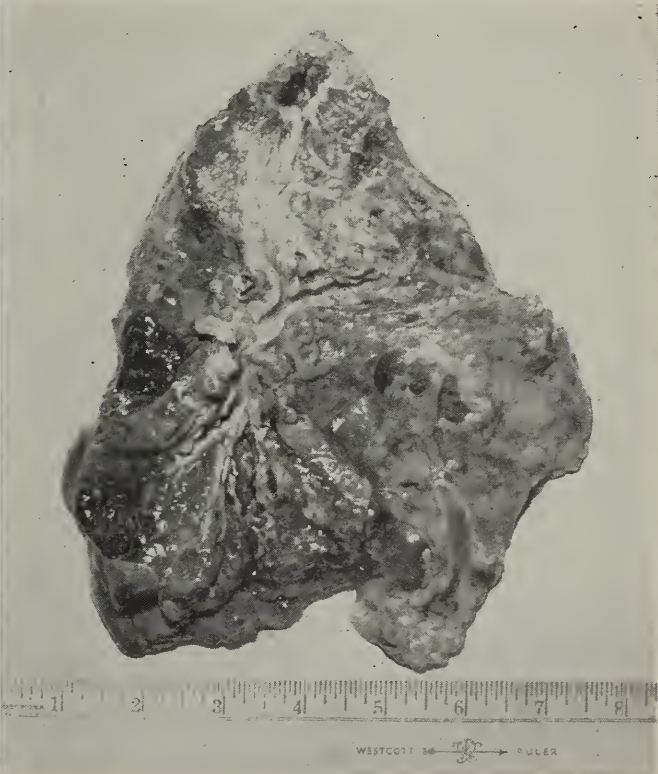


Figure 7B

space occurs in certain instances at the time of surgery as a result of cavity rupture during efforts to mobilize the lung, with subsequent development of empyema in many of this group. Bronchial fistula and empyema as complications can be expected in five to ten per cent of resections for tuberculosis.

Ipsilateral or contralateral spreads and exacerbations constitute another source of morbidity and usually are reported as occurring in approximately five per cent of cases. Persistence or exacerbation of endobronchial tuberculosis is found not infrequently and accounts for cough with positive sputum in many cases classified as failures after resection.

Present day operative mortality for pulmonary tuberculosis resections is very low, and over-all mortality rates are most frequently found to lie between five and 15 per cent, though Wilson¹ reports but one death in 209 patients, and Haight² had no deaths in 50 cases.

The sputum conversion rate is influenced in

different reported series by the types of cases selected for resection, the operative procedure used and the intensity of the search for tubercle bacilli. Current reports in the literature indicate conversion of sputum from positive to negative can be accomplished in 70 to 90 per cent of the survivors of resection.

Of the many factors affecting the results obtained with resection for tuberculosis at least three are deserving of special mention. Most prominent of all is streptomycin and related drugs which influence the course of this disease. Streptomycin has furnished most of the impetus for the present popularity of resection therapy, as is evidenced by Murphy's³ revelation that only about 90 cases were reported in the American literature by 1944 and slightly over 600 up to May, 1948. Since then there has been a virtual flood of cases reported. The results in the series reported in this paper are not statistically significant for valid conclusions as to its value, but the uniformly favorable response in every instance of spread or reactivation when it

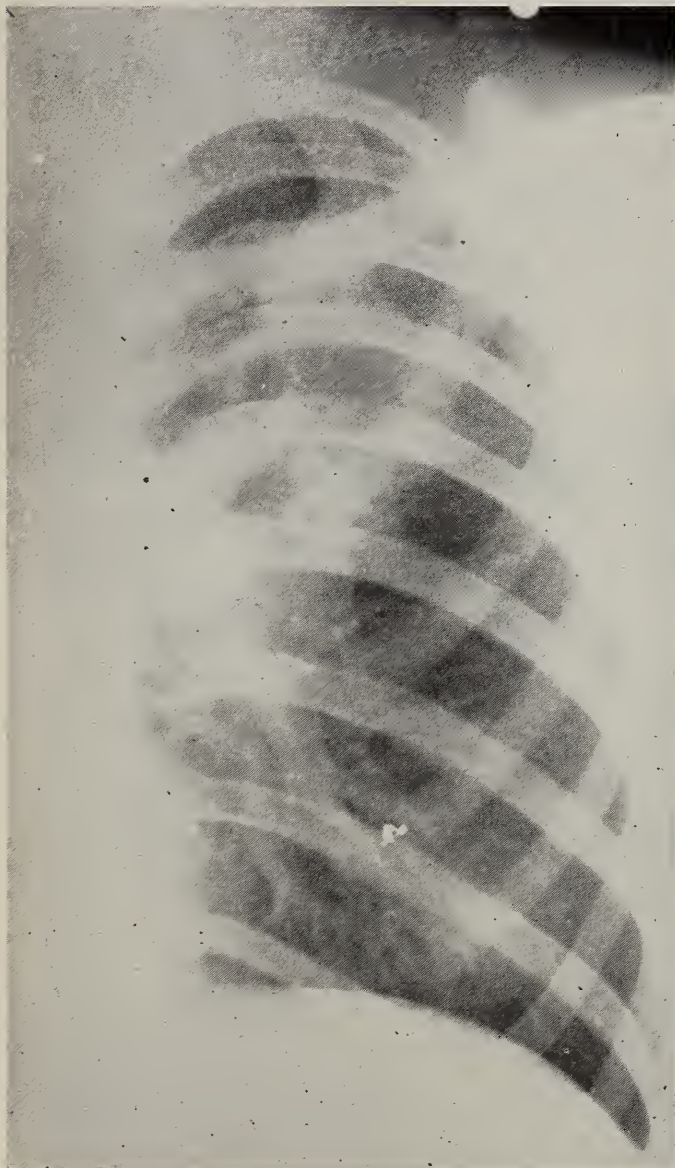


Figure 8A



Figure 8B

occurred in patients receiving their initial course of the drug is impressive. Bailey, Glover, and O'Neill⁴ have reported their findings in 100 cases treated with streptomycin in comparison with 100 patients resected before the drug was available. The early results show ten per cent total complications as against 49 per cent, and 16 per cent mortality rate as against 27 per cent. Most of their mortality rate came in the group of resections for acute disease, a group in which resection would not have been attempted before the advent of streptomycin and in which considerable doubt exists concerning the advisability of resection under any circumstances. Other authors have noted marked reductions in deaths and complications under the protective influence of the drug. Previous administration of the drug with development of streptomycin-resistant organisms robs the patient of future protection with it, as is indicated by the experience of Jones and Robinson⁵ that the eight patients in their series who had resistant organisms at the time of surgery all developed severe complications. The often repeated plea is

again made that streptomycin not be given indiscriminately for tuberculosis, but that its use be reserved for incorporation at the most advantageous time in the over-all long-range plan of treatment.

A second major factor affecting results is the care used in selecting patients for pulmonary resection. Detailed study of the patient and the degree of resistance which he has manifested toward his disease are important, with little gain to be expected from extirpative surgery in those persons who exhibit little natural ability to cope with their tuberculosis. The patient must also be a reasonably good major surgical risk, particularly from the standpoint of cardiopulmonary reserve.

The final factor to be mentioned is the use of auxiliary measures to be employed with resections. Realizing that extirpation of the patient's tuberculosis is not complete, he should have the benefit of sufficient rest, of collapse measures such as thoracoplasty, pneumoperitoneum, and phrenic crush as needed, and of informational and rehabilitation facilities to help preserve the gains made by surgery.



Figure 9A



Figure 9B

CASE REPORTS

Case 1. *L. P. and P. G.* Figure 1 shows bronchograms made with lipiodol in two patients. Figure 1A depicts saccular bronchiectasis in the left lower

TABLE 5
LOBECTOMY INDICATIONS AND RESULTS—
21 PATIENTS

| INDICATIONS | No. | % OF TOTAL |
|---|-----|------------|
| Bronchostenosis and/or destroyed lobe .. | 6 | 29 |
| Extensive disease unsuited to other therapy | 3 | 14+ |
| Diagnostic exploration | 4 | 19 |
| Thoracoplasty failure | 3 | 14+ |
| Primary elective procedure | 3 | 14+ |
| Tuberculous bronchiectasis | 2 | 9+ |
| RESULTS | | |
| Mortality | 1 | 5— |
| Observation period of survivors | | 18 months |
| Major complications (empyema, bronchial fistula, progressive spreads, etc.) | 1 | 5— |
| Non-threatening spreads and exacerbations | 2 | 10— |
| Sputum in survivors | | |
| adequately studied | 11 | 69% 5 31% |

2 Segmental resections for tuberculoma, no deaths or complications.

lobe of a young Mexican woman who had been treated with pneumothorax and pneumoperitoneum over a period of several years. Her sputum remained positive for tubercle bacilli. Lobectomy

was performed under the protective influence of streptomycin and she has been well, with negative sputum, for nearly three years now. The oblique view of another chest on Figure 1B shows lipiodol in the severe dilatations of the bronchial tree of a destroyed lung. The only practical definitive therapy for disease of this type is resection.

Case 2. *L. C.* This is the case of a young woman who had a so-called destroyed lung (Figure 2A). Moderately extensive disease had been present in the contralateral lung but was judged to be stable at the time of pneumonectomy (Figure 2B). The patient is home and in reasonably good clinical condition, though her sputum specimens have not been consistently bacillus free.

Case 3. *L. S.* This young woman had been treated by an apparently satisfactory thoracoplasty with subsequent revision thoracoplasty, only to be left with persistently highly positive sputum presumed to be originating from a slit-like cavity remaining in the apex of the collapsed portion of lung (Figure 3A). She had also been treated, perhaps ill-advisably, with streptomycin on a previous occasion. Her cavity was inadvertently ruptured during attempts to mobilize the lung for resection (Figure 3B). Bronchial fistula, tuberculous



Figure 10A

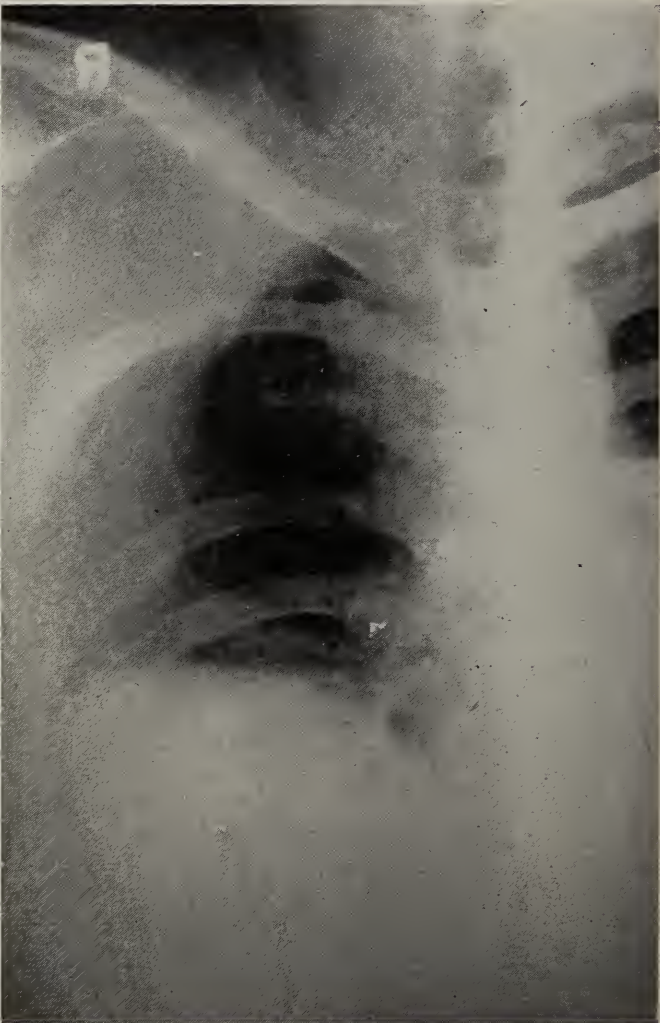


Figure 10B

empyema, and progressive contralateral spread of her disease, all unaffected by a second course of streptomycin resulted in death after ten weeks, and accounts for the only tuberculous death in the modern pneumonectomy group.

Case 4. C. M. A. Figure 4A shows a giant cavity in the upper lobe of the right lung, in reality replacing the upper lobe, and extensive infiltrations throughout the remainder of the lung. A very extensive thoracoplasty would have been required for this middle aged man and would have offered little likelihood of sputum conversion. His postpneumonectomy course was good until four months later when he developed a bronchopleural fistula with empyema, the exact nature of which has not yet been determined. Figure 4B is the specimen of the removed lung.

Case 5. J. B. H. This is the case of a young woman who had had extensive disease throughout her right lung, endobronchial and laryngeal tuberculosis, and a small lesion in the left lung (Figure 5A). Previous therapy consisted of two courses of streptomycin, para-aminosalicylic acid, pneumoperitoneum and pneumothorax. A tension cavity in a severely damaged lung persisted, and was the principal indication for pneumonectomy (Figure 5B). Her clinical condition is rather poor and her sputum remains positive.

Case 6. M. J. H. Figure 6 shows a young girl's chest with artificial pneumothorax. Fluid was

developing, the sputum remained positive for tubercle bacilli and attempts at getting the lung to re-expand met with no success, due to thickened pleura which held the lung captive (Figure 6A). The lung was the seat of extensive disease, for which pneumonectomy was done. Shortly thereafter a thoracoplasty was carried out to obliterate the dead space (Figure 6B). She has been well and bacillus free for one year.

TABLE 6
RESULTS IN 39 RESECTIONS, 1947-1951

| MORTALITY | | COMPLICATIONS | | SPUTUM CONVERSION | |
|------------|--------|---------------|-------|-------------------|-----|
| TB | NON TB | MAJOR | MINOR | NEG | POS |
| 2 | 1 | 5 | 3 | 18 | 8 |
| 5% | 3% | 13% | 8% | 69% | 31% |
| Total 7.7% | | | | | |

Case 7. T. B. This concerns a resected left lung from a 48 year old woman. The upper lobe was the seat of multiple thin-walled cavities, and there was a small lesion along the left cardiac border (Figure 7A). This is considered an elective pneumonectomy in place of thoracoplasty in a mentally unstable patient. Figure 7B shows the resected lung.

Case 8. M. L. B. This is the case of a 12 year old Indian girl who had been treated with pneumothorax, pneumoperitoneum and streptomycin over

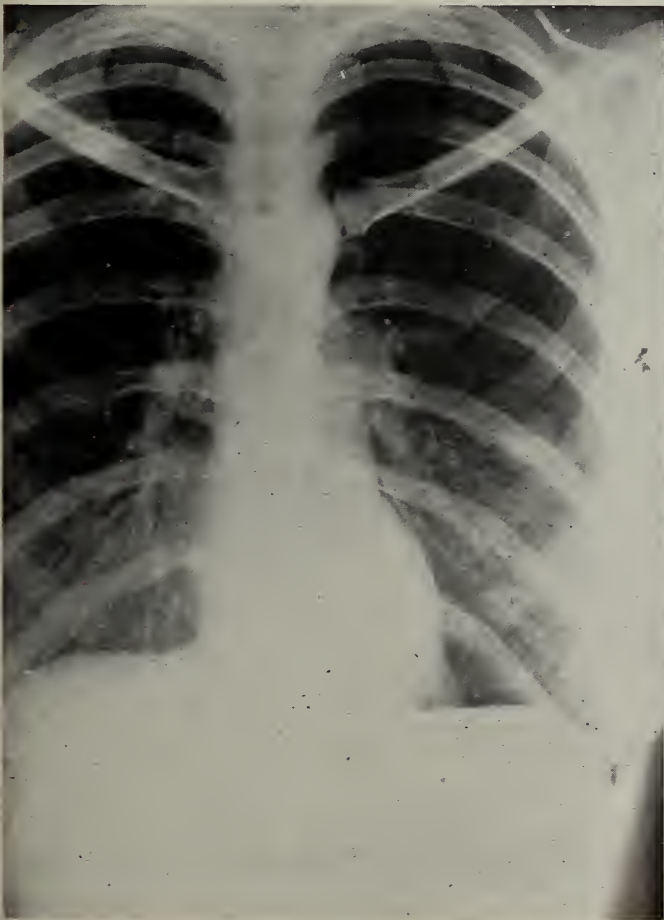


Figure 11A



Figure 11B

a span of four years. Her lesions were unstable and underwent an exacerbation, as is seen in Figure 8A, showing an acute pneumonic reaction with cavity formation. The right upper lobe was removed subsequently, and the patient has been well for ten months. The remaining two lobes have filled the hemithorax very adequately as would be expected in a 12 year old person, and the severe chest deformity caused by thoracoplasty in a patient of this age will presumably be avoided (Figure 8B).

Case 9. G. L. B. This young woman had active tuberculosis in the right lobe 11 years ago with recent reactivation, cavity formation and positive sputum (Figure 9A). Because it was felt that this was a thick-walled cavity which would be resistant to collapse by thoracoplasty and because there had never been evident disease elsewhere in her lungs, lobectomy was believed to be indicated. The lobe was fibrosed and retracted so that thoracoplasty to obliterate the dead space was not apparently necessary. Her film after three months shows the remaining two lobes well expanded without complications (Figure 9B). This was a purely elective lobectomy.

Case 10. F. J. N. This 30 year old man had an inflammatory-appearing lesion in the right upper lobe with cavitation, with consistently negative sputum reports (Figure 10A). It was thought that he had infection distal to bronchial obstruction, but an exact diagnosis was not made, so that exploratory thoracotomy and lobectomy were done. The lesion was tuberculous, and an upper stage thoracoplasty was done six weeks later to fill the space (Figure 10B). He has been well for three years.

Case 11. E. W. P. The final case presentation is that of a 35 year old physician who had a rounded density in the left mid-lung field, previously treated by pneumothorax (Figure 11A). A wedge resection of this tuberculoma from the base of the upper lobe was done, and recovery was uneventful without the use of streptomycin. The specimen is seen to be fairly well encapsulated, but is caseous throughout (Figure 11B).

Tuberculosis is well known to be a chronic and relapsing disease. Insufficient time has elapsed for proper evaluation of the results obtainable by surgical removal of its pulmonary lesions under present day conditions, but preliminary indications are that it is a feasible method of therapy and that in a certain group of patients for whom other types of therapy yield disappointing results it offers considerable hope and promise.

SUMMARY

1. The results obtained in 53 resections for tuberculosis, 14 before the advent of streptomycin and 39 since the drug became available, are given.

2. Accepted and controversial indications for resection are listed.

3. Resection for pulmonary tuberculosis is practical, with relatively low mortality rate and rela-

tively high sputum conversion rates in certain groups of properly selected cases for whom other therapy is of little avail.

4. Properly timed use of antituberculous drugs, principally streptomycin combined with employment of various time-proven methods of treatment, are essential in securing good end results from pulmonary resection for tuberculosis.

BIBLIOGRAPHY

1. Wilson, N. J.: Discussion of papers: Further experiences with segmental resection in tuberculosis; Resection in the treatment of pulmonary tuberculosis; Lobectomy and pneumonectomy in the treatment of pulmonary tuberculosis, *J. Thor. Surg.*, **20**:843-881 (December) 1950.
2. Haight, Cameron: Discussion of paper: Evaluation of streptomycin as a protective agent in pulmonary resection for tuberculosis, **18**:61 (February) 1949.
3. Murphy, J. D.: Discussion of paper: Pulmonary resection in complicated pulmonary tuberculosis, *Dis. Chest*, **17**:475-477 (April) 1950.
4. Bailey, C. P.; Glover, R. P.; and O'Neill, T. J. E.: Comparison of results in two hundred consecutive resections for pulmonary tuberculosis, *J. Thor. Surg.*, **18**:36-44 (February) 1949.
5. Jones, J. C.; and Robinson, J. L.: Pulmonary resection in tuberculosis: its hazards, indications and results. *J. Thor. Surg.*, **20**:882-891 (December) 1950.

HIGH DILUTION THERAPY IN THE USE OF HISTAMINE AND STAPHYLOCOCCUS TOXOID IN THE PRACTICE OF OTOLARYNGOLOGY AND OPHTHALMOLOGY

LÉLAND H. PREWITT, M.D.
OTTUMWA

CLINICAL FEATURES AND ETIOLOGY

HIGH DILUTION THERAPY in the use of histamine and staphylococcus toxoid has proven to be successful in routine office practice. The dosage is regulated by clinical observation, thorough history and symptoms of the patient, and not to a great extent upon the reactions of multiple allergenic tests. The dosage varies from 1-100,000 dilution of histamine or staphylococcus toxoid for mild cases, and increases from 1-100,000 to 1-100,000,000. From the mild, moderately mild, to the moderately marked cases the dilution increases to 1-10,000,000. With marked sneezing and severe symptoms the dosage is increased up to 1-100,000,000. With severe symptoms of advanced asthma or of small children with nasal allergy and asthma, dilutions up to 1-10,000,000,000 will prove more effective.

Table 1 explains the dilution therapy for staphylococcus and histamine classified according to the symptoms. Since this is effective in the majority of cases, the task of doing so many allergy tests, as we did previously, is reduced. This table of dilution can be used for house dusts, grain mill dusts and any of the allergenic extracts, as well as the clinical syndromes responding to this form of allergenic therapy.

High dilution therapy, or optimum dosage therapy, was first described by Hansel in 1940,¹ and

has proved highly successful. He has been the pioneer and outstanding leader of this form of therapy, proving that small dosages will often be more effective than massive, high concentrated doses with their many severe local and general reactions.

Histamine therapy in the field of otolaryngology has advanced rapidly since Horton and Macy^{2, 3} presented the classical work of histamine cephalalgia, in which he used the intravenous technic. Hansel¹ has further augmented the progress of this drug, using high dilutions subcutaneously, intracutaneously and orally under the tongue.

Shambaugh⁴ recently reported good results in

TABLE 1

| 1 - 100,000 | 1 - 1,000,000 | 1 - 10,000,000 |
|---|--|--|
| Very mild nasal allergy, stuffy type post nasal drip. | Moderate, mild stuffy, post nasal discharge. Occasional sneezing. | moderately marked obstruction, sneezing and discharge. Symptoms may be intermittent. |
| 1 - 100,000,000 | 1 - 1,000,000,000 | 1 - 10,000,000,000 |
| Marked sneezing, obstruction and discharge, itching, continuous symptoms, marked nasal changes. | Very severe, same as previous group. Marked edema. Polyps edematous. | Very marked asthma. Small children with nasal allergy or asthma. |

postoperative fenestration cases in which the hearing was failing, using dilution of histamine up to 1 - 10,000,000 and as high as 1 - 1,000,000,000. He also reported several cases of hearing loss due to house dust sensitivity which responded with marked improvement to dilutions of house dust of 1 - 1,000,000,000, and higher. These cases were all therapeutically proven by subjecting patients to their food and inhalent sensitivities. Hearing promptly dropped. When the patient was returned to allergic treatment, his hearing resumed its former level.

Skinner⁵ reported successful treatment of Bell's palsy, retrobulbar neuritis and paralysis of the extra-ocular muscles. This same high dilution technic can be used in histamine therapy in dilution up to 1 - 10,000,000,000 in the following clinical conditions:

1. Headaches of various kinds, such as the histamine cephalalgias, the migraine headaches, traumatic headaches following concussions, skull fractures, tension headaches, psychogenic headaches and vascular headaches. The pains are of two types in the majority of the cases: those which are due to involvement of the sensory nerve ganglion, causing the neuralgia and pain, and those due to vascular tension, involving the sympathetic, parasympathetic nervous system.

2. Sudden loss of hearing, whether on an allergic or traumatic basis, or following fenestration operations.

3. Neuralgias: trigeminal, glossopharyngeal and herpetic.

4. Meniere syndrome complex, with its associated vertigo and tinnitus.

5. Pains following trauma, concussion, skull fractures and cerebral hemorrhages.

6. Vasomotor rhinitis.

7. Bell's palsy. Skinner⁵ has reported a series of cases treated with histamine. Pathology, as you know, is due to a spasm of the seventh nerve.

8. Retrobulbar neuritis and episcleritis, sudden, partial or complete paralysis of the extra-ocular muscles.

Therapy must be directed toward vasodilatation. Histamine is given subcutaneously by the low dose optimum method and, in conjunction with these injections, histamine diphosphate made in dilutions from 1,000 to 1,000,000 are instilled in the eye every two or three hours. Care must be exercised in using the strong dilutions as they may produce edema of the conjunctiva. This rarely occurs, but when it does, adrenalin of 1 to 1,000 will counteract the reaction.

In the past etiology of retrobulbar neuritis was thought to be due to an inflammation of the optic nerve behind the eyeball. Undoubtedly a great many of these former cases thought to be due to infectious processes were the result of those factors that create vascular disturbances. However, a small per centage may be the result of secondary vasospasm from focal infections, especially of the sinuses. Many believe that retrobulbar neuritis is the forerunner of multiple sclerosis, as it is an early symptom of over half of the cases.

Therapy is directed toward vasodilation. About 80 per cent give a response to histamine diphosphate administered by the low dose optimum method.

Skinner⁵ in 1942 reported the case of a male in his early thirties who became sensitized to cat hair. Since the elimination of four cats from his home and hyposensitization with the cat hair, he has had no reoccurrence of retrobulbar neuritis.

Sudden, complete or partial paralysis of the extra-ocular muscles is not too uncommon in practice. Undoubtedly the logical basis for this condition is vasospasm. Some cases may result from secondary vasospasm due to infection, hemorrhage, neoplasm, heredity, vitamin and mineral deficiency or constitutional factors such as anemia, trauma, stress, strain and emotional upsets. All help set up a reactive state so that an imbalance of the autonomic nervous system occurs, or a dysfunction results, as Williams⁶ mentions. Many however are due to a primary spasm.

Skinner⁵ reports 18 cases in which 15 responded to histamine therapy; three received no benefit.

Foods that create vasospasms must be eliminated. Inhalent allergies that produce vasospasms must be treated. Lastly, beware of excessive administration of histamine diphosphate, especially the dosage that creates vasospasms, as

you may precipitate the original pathology. Seasonal iritis and uveitis due to allergy, reported by Fein,⁷ responded to allergic therapy.

Glaucoma may be an allergic phenomena. Duke-Elder⁸ stresses the important part vascularity and sclerosis of the uveal tract play in the therapy of glaucoma, whether it is a narrow or wide angle. Parrisius⁹ found lack of coordination among arteriole, capillary and venule in the skin of patients who had chronic simple glaucoma and Meniere's disease. Dr. Vera Walker of Oxford, of the College of Allergy two years ago, stated her belief that 25 per cent of glaucoma cases were allergic. Some place it as high as 50 per cent. Theobald¹⁰ showed by multiple sections how aqueous or lymph channels connected directly into the vascular mechanism of the eye in the region of the Schlemms canal.

Duggan^{11, 12} mentions that since allergy is a manifestation of altered permeability of membranes or of smooth muscle spasm, it is obvious that acute congestive glaucoma can also be considered allergic. All substances, whether of chemical, nervous or endocrine origin which, by virtue of their presence or their absence, alter capillary permeability or cause arteriolar spasm are possible etiologic agents. Since oxygen is most important for maintaining normal capillary permeability and since ordinarily the blood contains sufficient oxygen, it is apparent that acute glaucoma is a manifestation of localized capillary and tissue anoxia.

Two factors operate to produce glaucoma: Humoral or nervous influences, which act like histamine in causing either arteriolar spasm or increased capillary permeability or both, and hypersensitivity of the vascular system of the ciliary body to these influences. The rise in tension is a secondary effect, depending on a number of variables, such as size and position of the lens, the effect of a dilated pupil on the filtration angle and probably, the rate at which the leaking capillaries allow fluid to pass into the ciliary body.

In all cases glaucoma can be regarded as due to failure of homeostasis, but not in all cases is the condition due to the same etiologic agent, and in many cases several etiologic factors are concerned.

Theoretically, if glaucoma involves the aqueous, lymph channels and vascular channels, and is due to disturbances or vasospasm or autonomic dysfunction, as mentioned by Williams,⁶ histamine, staphylococcus and allergic therapy, as an aid, may be worth a trial in glaucoma. It has been pointed out repeatedly that allergy is primarily a vascular phenomena. It is a stereotype reaction of the peripheral vascular bed consisting of arteriolar constrictions with atonic dilatation of the capillary venule, all due to a dysfunction of the autonomic nervous system. Ruedemann¹³ reported four cases of detachment of the retina due to

allergic causes. He stressed the importance of working out the etiology before operating, as the cases tend to reoccur if the allergic causes are not eliminated. These four cases were cleared up by treating the general allergy. One 18 year old boy had four detachments in one year. Ruedemann states that keratoconus, iritis, chorioretinitis and optic neuritis are often due to allergy, and illustrated several cases by slides and history.

SUMMARY

1. Many common vascular disturbances of the eye are the result of primary vasospasms.

2. The basic and precipitating causes of most vascular phenomena of the eye are similar to those of Bell's palsy.

3. Therapy must be directed toward vasodilatation or breaking the block by adding staphylococcus toxoid.

4. Histamine diphosphate given subcutaneously by the low dose optimum method as advocated by Hansel¹ is easily administered and has given phenomenal results.

5. Foods that create vasospasms must be eliminated.

6. Inhalant allergies that create vasospasms must be treated.

7. Beware of the excessive administration of histamine diphosphate, especially the dosage that creates vasospasms, as it may precipitate the original pathology.

Staphylococcus toxoid, like histamine, has been used in high dilutions and has proved effective as a nonspecific blocking agent in the allergic reaction. It will often block the allergic process itself, and on many occasions act synergistically with drugs such as histamine or other specific allergens. It tends to act similar to ACTH and cortisone, stimulating the adrenal cortex and the oxysteroid.

Staphylococcus is used in a large number of allergic conditions, such as:

1. Dermatitis of the lids following hay fever and asthma, which is characterized by a sudden onset of marked chemosis and edema, absence of bacteria and purulent secretion.

2. Eczematous type, typically seen after the use of drugs in which the patient is sensitive. This is the type most often seen; it is accompanied by intense lacrimation and redness of the skin of the lids. The latter has a parchment-like feel which is characteristic. Often the skin is fissured where the secretion exudes onto the skin.

3. Chronic conjunctivitis is probably the commonest of all types and not often recognized as being allergic in origin. Dryness and itching are usual complaints, and blepharitis is common. Mattox¹⁴ reported excellent results in a series of dermatitis cases of the eyes and of the face where he began with one unit of staphylococcus toxoid and later treated the other offending allergens such as house dust, moulds and hay fever pollens.

Mere withdrawal of local contacts will in many cases give no results unless specific and non-specific allergic treatment is given. Cytological examination for eosinophiles in the eyes are made and food sensitivity is checked.

Staphylococcus toxoid is also used in:

1. Urticaria.
2. Angio edema.
3. Penicillin reactions.
4. Contact dermatitis.
5. Eczema.
6. Staphylococcus infections—
 - a. Especially of the lids
 - b. Of the ears
 - c. Of the skin
 - d. About the face in otitis externa.
 - e. Otitis media
7. Rheumatoid arthritis.
8. Infantile eczema.
9. Rheumatism and arthritis.

Presnell¹⁵ treated 48 patients who had penicillin reactions with small doses of staphylococcus toxoid. This was found to be effective, often dramatically so, in cases in which other methods of treatment had failed. The mechanism appears to be one of a foreign protein type of reaction, so-called nonspecific, which breaks up the chain of allergic responses or relieves the arteriolar spasms and dilatation of the capillary and venule, correcting the dysfunction of the autonomic nervous system.

Treatments were originally started by the injection of one to two units of staphylococcus toxoid. They were given at 24 to 48 hour intervals and gradually increased to three, four or five units. It was found, however, that the small dosage of one half unit seemed to be much more effective in producing prompt relief of symptoms. Thus the more recent cases were started with one unit, and in 24 to 48 hours, one half or even one fourth unit was given. Frequently two or three injections were sufficient to give complete relief of the symptoms. In many cases only one dose was needed, and often relief was noted in a matter of hours. In a few cases four or five injections were needed. The average, to obtain complete relief, was two or three injections of one half unit, each given at 48 hour intervals. This technique promptly relieves when other methods have failed.

THE TYPES OF REACTIONS TO PENICILLIN

Type I. Reactions of the urticarial serum sickness type. This constitutes the most common type of allergic reaction to penicillin. It is characterized by urticaria and erythema with joint pains and sometimes fever. A negative skin test reaction to penicillin does not necessarily exclude sensitivity. Waldbott¹⁶ skin tests every case before administering penicillin to exclude the possibility of immediate reaction.

Type II. Reactions with erythematovesicular eruptions, trichophytid type. Erythematovesicular

reaction tends to localize on the hands, feet and groin, and may become a generalized exfoliative dermatitis. This may represent a secondary mold infection and not a primary allergic reaction, caused by a previous athlete's foot infection.

Always eliminate possible allergic contacts, food; desensitize when cases fail to respond readily.

STAPHYLOCOCCUS TOXOID

Treatment of: Urticaria, acute and chronic; post-penicillin reactions-serum sickness; infantile eczema, atopic dermatitis; contact dermatitis; rheumatoid arthritis—1/10 unit or less; furunculosis of ear canal, styes, etc.; marginal blepharitis.

Stock Solution No. 1, 100 units per cc.

One cc. 100 unit sol. *nine cc. Diluent = ten cc. ten units per cc.

One cc. ten unit per cc. sol. *nine cc. Diluent = ten cc., one unit per cc.

One cc. one unit per cc. sol. *nine cc. Diluent = ten cc. one tenth unit per cc.

Begin treatment with intradermal injections

TABLE 2

| Ten units per cc. | | | One unit per cc. | | |
|--|-------|---------|---|------|---------|
| Urticaria—angioedema penicillin, staphylococcus infections, contact dermatitis | | | Infantile eczema, rheumatism, arthritis | | |
| 1.0 | Units | .10 cc. | .10 | Unit | .10 cc. |
| .80 | Units | .08 cc. | .05 | Unit | .05 cc. |
| .50 | Units | .05 cc. | .03 | Unit | .03 cc. |
| .30 | Units | .03 cc. | .02 | Unit | .02 cc. |
| .20 | Units | .02 cc. | | | |

every three or four days. In most cases it is well to try one half unit as the first injection, then increase or decrease as indicated. Always ask the patient if he is better, worse or the same.

Increase or decrease dosage according to the response of a few treatments, then maintain dosage at most effective point. Do not build up dosage. If a slight flare up occurs after an injection, reduce the dosage. After relief of symptoms, increase intervals to a week or ten days. If still well, discontinue treatment.

When symptoms recur, look for the cause of exacerbation—food, contact, etc. Results are excellent if dosage is properly calculated.

Since treatment should be given intradermally, the amounts should be small. The following plan is suggested. Notice that the largest is .10 and the smallest is 0.02 cc.

TREATMENT

A careful history is taken on all cases, especially when searching for allergic factors. These are eliminated, as well as other pathology.

Allergy tests are done when indicated; avoidance, elimination and hyposensitization of the offending allergen are carried out.

If patients fail to respond to the above procedure, histamine therapy may be used where indicated, or staphylococcus toxoid. If either of these

alone fail to elicit good results, other allergic extracts such as house dust, mattress dust, moulds, upholstery dust, dog hair, cat hair, are utilized when indicated. Foods are checked carefully and eliminated more by the history than by the skin tests. Drugs such as Cafergot, dihydroergotamine tartrate, bellergal, nicotinic acid, the vasodilators such as Roniacol, and the resins, such as Resodec, carbo-resin, when indicated, and other forms of therapy are tried.

Histamine and staphylococcus are effective synergistically with other drugs in many instances in which they are not effective individually or together. The emotional or psychosomatic state of the patient is also carefully evaluated.

On the basis of an accurate allergy history, clinical symptoms and the titrations, an index of the degree of sensitivity and the degree of response expected may be determined. Some patients are skin negative and this will add to your difficulty.

The majority of these patients are routinely started on number seven dilution, or 1-10,000,000 intradermally. They are also put on sublingual drops, one to ten thousand, two drops underneath the tongue, twice daily. The patient is asked to return in four or five days when a second evaluation of the symptoms is made to determine if he is better or worse or if it is necessary to change the dosage level, eliminate the different causative factors, etc.

The optimum dosage level can usually be determined after the second or third injection. Once the patient has responded to a certain dosage, that dosage is not changed, as long as good results are obtained. This is an important point. The effective dosage should be maintained. The time interval may be changed gradually from twice a week to once a week, then ten days, two weeks and three weeks. Treatment may then be discontinued to determine how long the patient remains symptom free. Some patients will become free of symptoms after four or five treatments, many within two or three weeks. Some may have to continue treatment for many months. Many patients recover, remain well for several months or years, then have a reoccurrence. After two or three injections the symptoms may again subside. The patient soon learns to evaluate his symptoms and returns when in need of further treatment.

This high dilution therapy or optimum dosage therapy of Hansel's has proved successful. For practical purposes, histamine and staphylococcus therapy should be tried before preparing a large series of skin tests or advising hospitalization.

As a rule, if a careful allergic history is taken and symptoms are accurately evaluated, three or four treatments will give the patient relief.

THERAPEUTIC SUGGESTIONS

1. Modify injections if food sensitive or asthmatic. In general, hay fever patients are more sensitive.

2. Give much smaller doses during hay fever season. Also continue small dilutions after the ragweed season.

3. In severe asthma use weak dilution (1-10,000,000,000). No skin tests while symptoms are marked.

4. In small children, use mostly 1-1,000,000,000 or 10,000,000,000. Older children near puberty: 1-100,000,000 or 1,000,000,000.

5. If relief lasts only two to three days increase dosage. Intervals should be progressively increased.

6. Maintain dosage at effective point. Do not increase when relief is satisfactory. In general, decrease dosage rather than increase if making no response, except in mild cases.

7. Start injections at five to seven day intervals. After relief is complete try to increase the interval to ten days, later 14 or 21 days.

SUMMARY

The clinical feature and possible pathogenesis of headache, Meniere's syndrome, deafness, neuralgia, post-traumatic and postoperative pain are discussed, and a course of high dilution therapy, following Hansel's technic, is described for histamine. Staphylococcus toxoid is used for the following: dermatitis of the lids, eczematous type; chronic conjunctivitis, vernal catarrh, urticaria, angioedema, penicillin reactions, contact dermatitis, eczema, staphylococcus infections, otitis externa, otitis media, rheumatoid arthritis, infantile eczema, rheumatism and arthritis.

High dilution therapy, intradermally and with sublingual medication twice daily, is offered for your approval, with the hope that it will be tried first or after other forms of therapy have failed, as this method eliminates the more formidable technics and expense, time loss and hospitalization.

House dust therapy, pathogenic moulds, food elimination, emotional and psychosomatic factors, vasodilators, resins and other forms of therapy, specific and nonspecific, often have a synergistic action with histamine and staphylococcus and aid a great deal in cases which resist other forms of therapy.

Case 1. Histamine cephalalgia. R. E. W., a white male, aged 60, an insurance man, has severe attacks, waking him up at night, making it necessary to get up and walk. He had severe pain in his right eye, congestion in the right side of his nose and tenderness over the side of the face. He also had an associated angular attack of pain. He was placed on 0.1 cc. of number 10 histamine, twice a week for three weeks. The pains stopped completely as well as the angular attacks. After the discontinuation of treatment, he had a reoccurrence and was again treated for two weeks. The symptoms subsided the second time and there has been no reoccurrence during the past year.

Case 2. Histamine Cephalalgia. N. W., Personnel Director of large manufacturing concern, is a white male, age 37. He complained of severe head-

aches on right side, waking him in the night. The pain was localized in the eye, often causing the eye to tear. He also had congestion of the nose lasting about an hour. The attack was so severe that he had to get up and walk. He had difficulty in raising the lid. He had no previous history of headaches and there was no history of allergy. Treatment was started with 0.1 cc. of number 10 histamine, and injections were given twice a week with excellent results. He was treated for one month and has never had a reoccurrence.

Case 3. P. W. B., a white male telegrapher, aged 42, complained of facial neuralgia on the right side; shaving or rubbing a wash cloth on the face would start terrific pains in that region. He was started on 0.1 cc. of number 10 histamine which carried him along well; this occurred two years ago. He was treated for two months; pains ceased and he remained free of symptoms for a period of six months. When a slight reoccurrence appears he returns for two or three injections which give him relief for a period of months. This patient can anticipate attacks. Two or three injections usually prevent severe reoccurrences. He has followed this course for the past two years. The advantage of this therapy is patients do not have to be hospitalized. They can carry on their occupations and quite frequently obtain complete relief in a comparatively short time.

Case 4. Migraine. C. S., a white female, age 38; a housewife, had a history of migraine for a period of 15 years. Its severity required her to go to bed with scintillating scotoma, blindness, nausea and vomiting. She has been treated with histamine 0.1 cc. of 1-1,000,000 since February 17, 1950, and has been comfortable but cannot go without therapy.

Case 5. Cerebral hemorrhage. W. B., is an 84 year old white female who was unable to speak, had difficulty in opening her mouth and was unable to push her tongue forward. She was given histamine therapy, 0.1 cc. of number 8, and within ten minutes after giving the intradermal injection she was able to open her mouth, move her neck freely and swallow. She was treated for a period of three months, when she moved from town. She derived a great deal of benefit from the intradermal injections. Because she could not speak she always brought a note describing her condition.

Case 6. T. G., a white male bartender, aged 45, came in for observation because of chronic draining ears of one month duration. He had been under treatment for two months. A diagnosis of external otitis was made. He was placed on staphylococcus toxoid for two weeks after which his condition cleared completely.

Case 7. D. B., a white male, aged 4, had draining ears for three months. A diagnosis of otitis media purulent chronic was made. He was treated with staphylococcus toxoid every five days for three weeks. The symptoms cleared up completely.

Case 8. J. D., a white housewife, aged 50, had

chronic dermatitis of eye lids and ears for several months. She was placed on staphylococcus toxoid and house dust for three weeks with resulting normal appearance. There was no reoccurrence.

Case 9. K. H. S., a white male, aged 41, had psoriasis over most of the body, ears and scalp for four years. He was given staphylococcus toxoid and house dust for a period of five treatments. Bananas, wheatbread, tomatoes and chocolate were eliminated from his diet. No reoccurrence.

Case 10. M. S., a 28 year old white housewife, had dermatitis of the cheeks, eye, neck and antecubital areas for eight months. After placing her on elimination diet, staphylococcus toxoid and house dust, the condition cleared up. Four treatments were required.

BIBLIOGRAPHY

1. Hansel, F. K.: Treatment of certain specific types of headache with histamine, *Ann. Otol. Rhin. & Laryng.*, **56**:152-160 (March) 1947.
2. Horton, B. T.: Use of histamine in treatment of specific types of headaches, *J.A.M.A.*, **116**:377-383 (Feb. 1) 1941.
3. Horton, B. T.; and Macy, D., Jr.: Treatment of migraine with histamine; review of 144 cases, *J.A.M.A.*, **137**:1110-1114 (July 24) 1948.
4. Shambaugh, G. E., Jr.: Histamine in treatment of certain types of headache and vertigo following the fenestration operation, *Arch. Otolaryn.*, **51**:781-785 (June) 1950.
5. Skinner, D. A.: Treatment of Bell's palsy with histamine, *Ann. Oto., Rhin. & Laryng.*, **59**:197-204 (March) 1950.
6. Williams, Henry L.: Concept of allergy as autonomic dysfunction suggested as an improved working hypothesis, *Tr. Am. Acad. Ophth. & Otolaryn.*, **55**:123-146 (November, December) 1950.
7. Fein, Bernard T.: Seasonal allergic iritis (In press).
8. Duke-Elder, S.: Fundamental concepts of glaucoma, *Arch. Ophth.*, **42**:538-545 (November) 1949.
9. Parrisius, Walter: Kapillarstudien bei Vasoneu Rosen, *Deutsche Ztschr. F. Nervenenh.*, **72**:310-358 (October) 1921.
10. Theobald, Georgiana: Instruction course.
11. Duggan, W. F.: Role of anoxia in production of episcleritis and scleritis; treatment with vasodilators, *Arch. Ophth.*, **25**:113-121 (January) 1941.
12. Duggan, W. F.: Vascular basis of allergy of eye and its adnexia, *Tr. Am. Ophth. Soc.*, **36**:551-611 (November) 1946.
13. Ruedemann, A. D.: Eye and ear allergy (In press).
14. Mattox, John D.: Staphylococcus toxoid in ophthalmology, *Tr. Am. Acad. Ophth. & Otolaryn.*, **56**:272-275 (March, April) 1952.
15. Presnell, C. A.: Staphylococcus toxoid in postpenicillin reactions, *Tr. Am. Acad. Ophth. & Otolaryn.*, **56**:276-279 (March, April) 1952.
16. Waldbott, George L.: Personal communications, (Apr. 7-9) 1952.

MEETING OF THE BOARD OF TRUSTEES

July 8, 1952

The Board of Trustees met in the central office Tuesday afternoon, July 8, 1952, with all members present, as were the president, Dr. Whitaker, the secretary, treasurer and general manager.

Minutes were read and approved; bills were authorized; Dr. Bernard reported on committee activities and television difficulties; Don Taylor reported on progress made on professional relations of Blue Shield-Blue Cross; Dr. Billingsley suggested Don Taylor assist with the television program; radio programs were discussed; the Journal contract for 1953 was signed; details in connection with the new building were discussed and choices made; use of the roller rink for the 1953 meeting debated; desirability of a group insurance plan considered, and the meeting adjourned at five p. m.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MISS JOYCE MEYER, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.....Van Meter
DANIEL A. GLOMSET, M.D.....Des Moines
TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton
WENDELL L. DOWNING, M.D., Trustee.....Le Mars
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
505 Bankers Trust Building, Des Moines 9

Vol. XLII AUGUST, 1952 No. 8

COMMENTS OF YE EDITOR REGARDING MEDICAL TRAINING AND LICENSURE

One of the privileges of editorship should be the freedom to indulge in rambling comment on a variety of subjects. Times may change but the desire of man to express himself remains supreme. The foregoing seems a necessary preface to the remarks that follow.

Each June the Board of Medical Examiners meets in Iowa City to examine the graduates of the College of Medicine and others who seek medical licensure at that time. This year 107 persons were examined and it was the feeling of the Board that nearly all would pass. This marks a great increase from the number being examined even five years ago and augurs well for a greater supply of physicians.

The Board is composed of three members. Those three physicians are responsible for reading and grading all 107 examination papers. Needless to say, this involves giving up a major part of their leisure time for the following month and we feel it is only proper that on behalf of all members of the Society we say thank you to them.

We learn that next fall's freshman class has 120 enrollees, the number asked for by the Legislature last session. This, too, is good news and again should mean an increase in the number of practicing physicians. It is, of course, only natural that there will be some who fall by the wayside during the four years of medical study. Inevitably there will be a death or two, some illness, some failures in spite of careful screening, and possibly a misfit. On the whole, however, the number who progress to graduation should be larger than for the past few years.

It is our understanding that next year it will be compulsory for every junior medical student to spend one month with a preceptor during his summer vacation. It was hoped that the plan might be inaugurated this summer but because of a delay in procuring the necessary number of preceptors, most of the juniors made other plans and very few will take preceptor training this year. Next year, however, it will be possible to assign students early in the spring so that they will know where and when they are to serve.

It is our feeling that this preceptor training will be a valuable contribution to medical training in Iowa. It will provide the student with firsthand experience in medical practice in smaller communities and will demonstrate that a satisfactory service may be carried on without the assistance of a large hospital. It will give him experience in dealing with patients, show him how the economics of practice may work and we hope it will demonstrate to him the many compensations inherent in such a practice.

Speaking once more of our Board of Medical Examiners, may we remind you that last spring the Attorney-General's office ruled the Board had no authority to require citizenship as a basis for licensure. The Board has maintained, and in this has had the support of the State Society, that the requirement of citizenship was in the public interest. It is interesting to note that the Veterans Administration feels the same way, and it sets forth in its contract that every participating physician must be a citizen of the United States in addition to meeting other requirements.

WORLD MEDICAL ASSOCIATION

Iowa doctors are again invited to membership in the World Medical Association, which represents the practicing physicians and national medical associations of the world. A renewed effort is being made to extend the benefits and influence of the Association, and to aid in bringing the state membership to its established quota of 100. The following Declaration is a modification of the Hippocratic Oath adopted in 1948 as a result of a study of German War Crimes.*

I solemnly pledge myself to consecrate my life to the service of humanity.

I will give to my teachers the respect and gratitude which is their due;

I will practice my profession with conscience and dignity;

The health of my patient will be my first consideration;

I will respect the secrets which are confided in me;

I will maintain by all the means in my power, the honor and the noble traditions of the medical profession;

* Both the Declaration and the Code of Medical Ethics have been approved by member-sponsor American Medical Association.

My colleagues will be my brothers;

I will not permit considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient;

I will maintain the utmost respect for human life, from the time of conception; even under threat, I will not use my medical knowledge contrary to the laws of humanity.

I make these promises solemnly, freely and upon my honor.

It is hoped that this will be required by medical schools and licensing bodies as a prerequisite to graduation or license.

A natural sequence to the Declaration was the adoption in 1949 of an International Code of Medical Ethics, something which heretofore never existed. The Code is brief and is as follows:

Duties of Doctors in General

A doctor must always maintain the highest standards of professional conduct.

A doctor must not allow himself to be influenced merely by motives of profit.

The following practices are deemed unethical:

- a) Any self advertisement except such as is expressly authorized by the national code of medical ethics.
- b) Taking part in any plan of medical care in which the doctor does not have professional independence.
- c) To receive any money in connection with services rendered to a patient other than the acceptance of a proper professional fee, or to pay any money in the same circumstances without the knowledge of the patient.

Under no circumstances is a doctor permitted to do anything that would weaken the physical or mental resistance of a human being, except from strictly therapeutic or prophylactic indications imposed in the interest of the patient.

A doctor is advised to use great caution in publishing discoveries. The same applies to methods of treatment whose value is not recognized by the profession.

When a doctor is called upon to give evidence or a certificate he should only state that which he can verify.

Duties of Doctors to the Sick

A doctor must always bear in mind the importance of preserving human life from the time of conception until death.

A doctor owes to his patient complete loyalty and all the resources of his science. Whenever an examination or treatment is beyond his capacity he should summon another doctor who has the necessary ability.

A doctor owes to his patient absolute secrecy on all which has been confided to him or which

he knows because of the confidence entrusted to him.

A doctor must give the necessary treatment in emergency, unless he is assured that it can and will be given by others.

Duties of Doctors to Each Other

A doctor ought to behave to his colleagues as he would have them behave to him.

A doctor must not entice patients from his colleagues.

A doctor must observe the principles of "The Declaration of Geneva" approved by the World Medical Association.

CHOLINERGIC DRUGS

It is as fascinating to watch new drugs come and go as it is to watch a tennis match. We turn our heads one way when they come, another when they go—occasionally a point is made and everyone claps. The anti-cholinergic drugs have made a point. They are here to stay. Banthine and Prantal are the first of these agents on the market. More will follow. They are powerful drugs and useful tools. For the first time we have drugs which are really effective on the motility and secretion of the gastro-intestinal tract.

It has previously been shown that transentin, pavatrine and similar "antispasmodics" are less effective on the motility of the stomach and small intestines than belladonna and atropine. Chapman and coworkers, however, have recently compared action of belladonna, Banthine and a placebo when given along with a barium meal. They have concluded that in every test Banthine was clearly more effective in retarding gastric emptying and the passage of barium into the colon than was tincture of belladonna (0.6 cc.). Belladonna had only slightly more effect than a placebo and in 25 per cent of the experiments it was difficult to tell the difference between belladonna and the placebo.

Other fascinating physiologic facets have been revealed. (1) In studying many cousins of Banthine and Prantal, Kirsner has found one drug to be more powerful at reducing gastric motility, another at reducing gastric secretion and another at reducing salivary secretion. The day may come therefore, when many specific drugs will be available for inhibiting specific parasympathetic functions. (2) Study of the effects of Banthine has also helped to elucidate the mechanism of ulcer pain. Those who had thought that acid was the only factor in the production of ulcer pain are apparently mistaken. The relief of pain from parenterally administered Banthine is too rapid (approximately 14 minutes) for any conceivable reduction in acidity of the gastric content. Furthermore, such relief is contemporaneous with subsidence of the so-called type II waves, according to Gightower and Gambill. In another experi-

(Continued on page 430)

General Manager's Page

August is normally a vacation period for most of our members. In spite of this away-from-home period there is still a most unusual opportunity for every member of the Society to do a fine job of public relations. As new contacts are made, certainly time will be well spent in checking reactions either for or against the medical profession. There will also be an unusual opportunity to discuss the progress being made by medical science; the role of miracle drugs, the reasons for increased hospital care and so forth.

The opportunity is thus offered in a much broader field to establish good public relations not only for yourself but for the entire profession.

Do not miss this opportunity.

R. D. Bernard, M.D.

General Manager

Minutes of the House of Delegates to the American Medical Association

REPORT OF THE HOUSE OF DELEGATES MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The annual meeting of the House of Delegates of the American Medical Association was called to order Monday morning, June 7, 1952, at 9:30 by Dr. F. F. Borzell of Pennsylvania, Speaker of the House. Dr. E. Vincent Askey of California was made Vice-Speaker pro-tem in the illness of Dr. Reuling.

Dr. Paul D. White of Boston was recipient of the 1952 Distinguished Service Award for his work in cardiology.

Dr. Borzell discussed the status and structure of the AMA and the House of Delegates, presenting an elaborate breakdown of age groups in the House, new members, specialties represented, and fields of practice. He ended his talk by stating that physicians should no longer ask what they get from the AMA, but how they can strengthen it.

Dr. John W. Cline, retiring president, referred to achievements of the past year; to the efforts expended by the personnel of the central office; the relations between the medical profession and hospitals, the medical and osteopathic professions, the effectiveness of grievance committees, the American Medical Education Foundation, and the President's Commission on the Health Needs of the Nation.

Following the addresses came special announcements, introduction of resolutions, and supplemental reports. As is the custom, all reports and resolutions were referred to specially appointed reference committees where they were studied. Every member of the AMA is eligible to appear before a reference committee and give his opinion of the matters at hand; this is all taken under consideration by the committee which then drafts its own recommendations for action by the House.

Through the working of these reference committees it is possible to channel a great amount of business through the House in a comparatively short period of time, with due regard for the democratic processes.

The report of the Board of Trustees naturally covered many matters. Its recommendation that AMA dues remain \$25 was approved. The Board reported it was endeavoring to purchase property in Washington for its office there and will make another report in December.

The House voted the establishment of an advisory committee of outstanding non-medical personnel to serve as counsel to the AMA in matters pertaining to public interest; it approved paying an honorarium for the president and president-elect of \$50 per day while away from home on official business; and it approved appointment of a committee to study and consult with the American Osteopathic Association relative to the curricula of modern osteopathic schools. The original resolution read as follows:

"The curricula of modern osteopathic schools now are patterned largely after those of schools of medicine. The level of education provided by some has improved since the conclusion of the last war. There have been recent discussions between a committee of our Board and a similar group of the American Osteopathic Association. The representatives of the osteopathic profession express a desire for our assistance in further improving the education of students in osteopathic schools. In thirty-odd states the licenses granted to osteopathic physicians approach or approximate, for practical, legal purposes, those granted to doctors of medicine. We cannot accept or recognize the basic concept of osteopathy as a valid method of treatment of disease. The osteopathic profession apparently appreciates that fact as evidence by the progressive reduction of the emphasis upon the teaching of osteopathy in favor of instructions in medicine and surgery. Removal of the stigma of cultism would hasten that process.

"It is my considered opinion that the AMA Council on Medical Education and Hospitals should be permitted to aid and advise schools of osteopathy and that we should facilitate the opportunities of these schools to improve their faculties by removing any barrier of unethical conduct on the part of doctors of medicine who may teach in these schools. I recommend that the House take action to implement these suggestions."

The House asked that Dr. Borzell's remarks be widely publicized to county medical societies; it commended Dr. Walter H. Roehll for his services on the snowbound City of San Francisco last winter; it cited Mr. Howard W. Blakeslee, noted scientific writer, for his accuracy in reporting, and it approved a statement of principles for local community health planning. The following statement in regard to blood banks was approved: "The Committee has observed the wide variation in service charges in hospitals and blood banks.

Local conditions will always cause some variation, but the extremes now observed seem inexplicable. The service charge should cover all costs of the operation including depreciation and expansion reserves, but the realization of profit for the support of other institutional needs should be discouraged."

A resolution to shorten the periods of internships and residencies was referred to the Council on Medical Education and Hospitals; one restricting the surgical area of an oral or dental surgeon to the Board of Trustees which is to confer with the American Board of Oral and Dental Surgeons. Once again the need for better balance of supply and demand of internships and residencies was stressed: this was referred for study. Liberalization of licensure for certain non-medical groups was referred for further study.

One resolution asked that uniform types of membership be established in all county and state medical societies; this was referred to a committee for study and submission to the constituent state societies. A re-evaluation of the Code of Medical Ethics was referred to the Committee on Constitution and By-Laws. The committee to select the outstanding general practitioner of the year is to be nameless hereafter; state societies are to receive greater reimbursement for collecting AMA dues; Dr. Caughlan's resolution in regard to the pauper's oath signed by persons with non-service-connected disabilities for VA Hospitalization was approved; and much other miscellaneous business was discussed, referred for further study, and approved.

Dr. Paul Magnuson spoke before the House on the present survey of health needs authorized by President Truman; in spite of his explanations the House reaffirmed its distrust of the survey. Whitaker and Baxter asked that their contract be terminated at the end of the year, which was granted.

The physician's responsibility as a citizen was stressed continually throughout the meeting and he was urged to assert his influence in health planning as well as medical service. Because of his stake as a citizen, the association approved a resolution placing a limit on the maximum indebtedness of the Federal government.

The meeting demonstrated again the vast complexity of socio-economic as well as scientific problems confronting the profession, and the orderly manner in which they were studied gave promise of judicial decisions.

New officers elected were: Dr. Edward J. McCormick of Toledo, Ohio, president-elect; Dr. Leo J. Schiff of Plattsburg, N. Y., vice-president; Dr. James R. Reuling of Bayside, New York, Speaker of the House, and to succeed Dr. McCormick on the Board of Trustees, Dr. James R. McVay of Kansas City.

Atlantic City and Boston were chosen for the two sites of the 1955 meetings.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Program Committee June 15, 1952

The Program Committee of the State Society met in Boone Sunday, June 15, 1952, with the following persons present: President B. T. Whitaker; President-elect R. N. Larimer; section chairmen W. H. Longworth of Boone, R. J. Harrington of Sioux City, T. R. Updegraff of Waterloo, E. F. Van Epps of Iowa City, O. N. Glesne of Fort Dodge, F. E. Thornton of Des Moines and J. G. Fellows of Ames. Plans for the 1953 meeting were discussed and a tentative program developed. Section chairmen were instructed to procure their speakers. The meeting lasted four hours.

Committee on Industrial Health June 15, 1952

The Committee on Industrial Health met at the Roosevelt Hotel in Cedar Rapids Sunday, June 15, with the following persons present: Doctors R. F. Frech of Newton, S. T. Moen of Cedar Rapids, H. A. Amesbury of Clinton, H. A. Spilman of Ottumwa, H. H. Smead of Des Moines and R. D. Bernard, general manager. The agenda included the following: Results of the survey of members of the State Society doing industrial work; survey of industrial plants; manual for guidance of nurses of industry; code of ethics applying to the relationship between in-plant industrial physicians and private practitioners; relationship of committee and Industrial Commission; emphasis on industrial health in county society meetings; and relationship of this committee with Department of Public Health Engineering in SDH.

Meeting of the Council June 26, 1952

The Council met at Hotel Commodore in Des Moines Thursday, June 26, with the following persons present: Doctors C. H. Cretzmeyer, M. T. Morton, E. M. Kersten, O. D. Wolfe, H. A. Housholder, C. A. Boice, E. B. Howell and I. K. Sayre of the Council; F. C. Coleman, R. D. Bernard, A. B. Phillips and M. I. Olsen, and Mr. Don Taylor and W. H. Sherin.

Dr. Bernard reported first on activities of various State Society Committees; Dr. Olsen, Mr. Sherin and Mr. Taylor discussed Blue Shield problems; Dr. Coleman reported on legislative matters; and Dr. Bernard introduced an insurance representative who explained a plan for a group accident and health policy. Meeting adjourned at 4:15 p.m.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

REPORT OF ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION, CHICAGO

JUNE 8 to 13, 1952

Our trip to the AMA Convention in Chicago was a thrilling experience. The meetings were informative and inspirational. Luncheons and entertainment were gala affairs where one renewed acquaintances and made many new friends.

The Iowa delegates were: Mrs. Howard W. Smith, Woodward; Mrs. Claire H. Mitchell, Cincinnati; Mrs. Lester R. Hegg, Rock Valley; Mrs. George W. Watters, Des Moines; Mrs. Joseph W. Lawrence, Dubuque; Mrs. Edward B. Hoeven, Ottumwa; Mrs. Emerson B. Dawson, Ft. Dodge; Mrs. Harold J. Peggs, Creston and Mrs. Lonnie A. Coffin, Farmington.

Iowa is justly proud of representation on the National Board with the election of Mrs. Claire H. Mitchell as Recording Secretary.

Health education continues to be the primary objective of the Woman's Auxiliary to the AMA. It was emphasized by Mrs. Harold F. Wahlquist of Minneapolis, Auxiliary President. Auxiliary members are particularly well qualified to assume leadership in health education and to make important contributions to public welfare. The work of the thirty year old Auxiliary and its community, county, and state affiliates is to supplement, implement and extend the services of the AMA. We are determined to make ours a positive educational program to show what American medicine has done to give this country its high standard of health. Mrs. Wahlquist referred to the AMA speakers bureau, circulating film and record libraries, survey data and pamphlets. Nurse recruitment continues as another major interest of the Auxiliary.

State reports of the 60,000 physicians' wives who constitute the Auxiliary showed the following results. Thousands of dollars have been raised for scholarships and hundreds of young women have been recruited for the nursing profession. Blood donor centers and bookmobiles have been staffed. Members have been trained in civil defense and the teaching of thousands of volunteers to support medical men in the event of disaster.

Doctors' wives have served as chairmen in the tuberculosis, cancer and community health projects and volunteered many kinds of service to hospitals.

The Woman's Auxiliary presented a check of \$10,000 to Dr. Louis H. Bauer, newly inaugurated President, for the American Medical Education Foundation. The California Auxiliaries presented \$1200 honoring Mrs. Ralph Eusden, newly inaugurated Auxiliary President. Dr. and Mrs. Harold F. Wahlquist, Minneapolis, Minn., gave \$100 to the same cause as did Dr. and Mrs. Howard W. Smith, Woodward. A gift of \$500 was made to the World Medical Association. Eleven resolutions were approved.

Material will be sent to the new officers from National, but we are urged to continue the same program which we now have. For a detailed report of the meeting, please read *The Bulletin*.

MRS. LONNIE A. COFFIN, *President*

MEMORIAL SERVICE

April 1952

We pause today in our busy program to pay tribute to three of our members who have passed away during the past year.

Responsibilities of wives and mothers are much the same the world over but there are certain demands upon the wife of the doctor that makes her life unique. She must have a definite understanding of the many demands upon her husband whether physical, mental, spiritual or professional. Irregular meals, late hours and many emergency calls play havoc with the doctor's health, but the loving care of a patient and devoted wife aid him greatly in carrying on his chosen work. Her contact with her husband's patients whether personal or by telephone must always be kind and considerate.

The community service of the doctor's wife is most important and her association with various organizations furthers the aims of the medical profession itself. Active participation in church life is most essential since the doctor many times becomes a spiritual as well as a medical advisor. As a considerate mother she teaches her children that the doctor's health and profession comes first

because the happiness and welfare of many depends upon him.

In reviewing the lives of our three departed members, I find these many characteristics hold true.

MRS. GABRIEL S. WESTLY of Manly comes from a family of physicians and surgeons. Her father was Dr. J. S. Cron of Gladbrook, her two brothers were doctors—one preceded her in death—her only brother-in-law, the late Dr. S. S. Westly, and her two sons followed the same profession. Dr. J. Stephen Westly has taken over the practice of his uncle, Dr. Soren S. Westly, and Dr. G. Travis Westly is a surgeon on the staff of the Veterans Hospital in Des Moines. Mrs. Westly was a graduate of Lindenwood College, St. Charles, Mo. She organized the American Legion Auxiliary for World War I and has assisted it in the production of many home talent plays. She was active in church and community projects. Mrs. Westly passed away August 29, 1951. She was a sister of our own Mrs. Soren S. Westly.

MRS. HOWARD GRAY of Des Moines was born in Corning, and since her marriage resided in Des Moines where she took an active part in church and community work. She was a graduate of Northwestern University. Her home and family life reflected a wholesome cultural background. She had two children, De Vere Gray and our own Mrs. H. Kirby Shiffler of Des Moines. Mrs. Gray was a member of the Methodist Church and the Des Moines Womens Club. She served on the Board of the Des Moines Childrens Home for 40 years. She was also a member of the Current History Club. Dr. Howard Gray was a physician and surgeon and gave 45 years of service to Des Moines, until his death in 1946. Mrs. Gray passed away on January 24, 1952.

MRS. J. FRANK ALDRICH of Clarinda was born in Jefferson. Her girlhood was spent in Tarkio, Mo., and Shenandoah. She took a teacher's training course at Western Normal College and taught school for one year. In 1897 she was married to Dr. Aldrich and they made their home in Shenandoah until February 1946 when Dr. Aldrich became a member of the Clarinda Mental Health Institute Staff. Mrs. Aldrich's chief interests aside from her husband and three children were the church and the library. She died on February 22, 1952. The Page County Auxiliary presented to the Clarinda Mental Health Institute Library a copy of the book, *Christ and the Fine Arts*, compiled by Cynthia Maus in memory of Mrs. Aldrich.

MRS. WILLIAM R. HORNADAY
MRS. WILLIAM A. SEIDLER

THE PUBLIC HEALTH NURSE LOOKS AT HEALTH

The first objective of the Public Health Nurse is to help people to help themselves in the promo-

tion of health and prevention of disease. This is accomplished through working with individuals, families and allied professional groups such as physicians, dentists, hospitals and other groups in the community interested in health.

A statement of major responsibilities of a Public Health Nurse prepared by a committee of the National Organization for Public Health Nursing and accepted by the profession, classifies responsibilities as:

1. Giving nursing care and health guidance to individuals and families.
2. Working with other professional and citizen groups in studying, planning and putting into action the community health program.
3. Participation in educational programs for nurses, allied professional workers and community groups.

These responsibilities are carried out by:

1. Home visits for giving nursing care under medical direction and demonstrating and supervising some person in the home who will carry on until the nurse returns.
2. Interviews in the office, schools and in the home regarding health problems and plans for solving.
3. Visits to schools to assist teachers with their health programs. Participation in school and adult education as consultant or speaker.
4. Assistance in child health conferences and in diagnostic and treatment clinics.
5. Teaching groups on maternity and child care and conducting home nursing classes.
6. Serving as a member of a school or community committee or as a member of a committee within the health agency to study health needs and plan programs.
7. Participating in activities of professional organizations interested in health education or service.

The topics for discussion which might be included in the Public Health Nurses' teaching:

1. The program and policies of her organization or agency and the services provided.
2. The importance of medical and dental care and the resources for receiving these services.
3. The health needs during the maternity cycle, plans for delivery, care of infant and preparation of the other members of the family.
4. The growth and development of children and their physical, emotional and social needs.
5. Nutritional needs of all ages in health and illness.
6. Study of special accident hazards in the home.
7. The value of immunizations, symptoms of communicable disease, factors in care and prevention of spread. The nursing care required. Interpretation of Health Department regulations.
8. Causes of orthopedic defects and methods

(Continued on page 426)

BLUE CROSS



BLUE SHIELD

AS LONG AS YOU RECOMMEND
BLUE CROSS-
BLUE SHIELD,
DOCTOR, IT
MUST BE
GOOD!



THIRD FIELD MAN JOINS BLUE SHIELD

Morris E. Bandy of Aberdeen, S. D., was recently appointed Field Representative for the Blue Shield Physician Relations Department. Mr. Bandy has been employed as a Blue Cross Sales Representative in the state of South Dakota for the past two years. He has worked under the direction of the Sioux City Blue Cross Plan which handles enrollment in the state of South Dakota.

Mr. Bandy is 29 years of age, a veteran of World War II and a former student of Huron College, Huron, S. D. He will move to Sioux City where he will establish a Blue Shield Physician Relations field office in the headquarters of the Blue Cross Plan, but he will serve under the

direction of the Physician Relations Department in Des Moines. The new Field Representative will carry out his activities in physician relations in the twenty-six counties now served by the Sioux City Plan. That territory has been the responsibility of Mr. Douglas Majury who is being transferred to the Des Moines office where he will headquarter and work half the territory which is served by the Des Moines Blue Cross Plan.

These field men make contacts with individual physicians, conduct meetings of the doctors' office personnel, handle Blue Shield complaints from the public and profession, develop a continuity of contacts with industrial groups in order to relate the attitude of the profession toward Blue Cross-Blue Shield.

This Department of Physician Relations has

functioned as a part of Iowa Medical Service (Blue Shield) since July, 1951. The rapid growth of Blue Cross and Blue Shield and the many problems which accompany rapid expansion have made it necessary to employ these field men who serve to keep the profession informed on all matters relating to Blue Shield and Blue Cross as well as many industrial groups.

National Figures on Physician Participation in Blue Shield Plans

As of December 31, 1951, the number increased to more than 118,000. Of these, 92,345 signed participating agreements with Plans offering service benefits. Approximately 26,000 signed participating agreements of one kind or another with Plans offering indemnity benefits. In the areas served by Plans, 89 per cent of physicians in private practice are participating.

Amount Paid by All Blue Shield Plans for Professional Services Rendered by Physicians—In 1951—More than \$165 million for more than 5 million separate cases.

The Health Insurance Council has just published its most recent statistics on accident health coverage in the United States. These figures were computed as of Dec. 31, 1951. As of December 31, 85,991,000 persons possessed some type of hospital protection; 65,535,000 surgical care; and 27,723,000 medical care; an increase of 12 per cent for hospital, 20 per cent surgical, and 28 per cent medical over the figures released in 1950. These figures include the enrollment of Blue Cross and Blue Shield and other voluntary non-profit plans.

BLUE SHIELD MONTHLY STATISTICS

May, 1952

| | |
|-----------------------------------|--------------|
| Enrollment | 342,259 |
| Claims Processed for Payment..... | 7,146 |
| Amount Paid in Claims..... | \$232,138.05 |

WOMAN'S AUXILIARY

(Continued from page 424)

of prevention and care. Also, facilities for care and rehabilitation.

9. Procedures used by teachers for testing vision and hearing. School practices in healthful living.

10. Facts about care and treatment of tuberculosis and venereal disease; the importance of treatment and facilities available.

There are certain factors which are basic in all nursing service which are as follows:

1. All public health nurses and services must have medical direction. (It may be from the medical director, health officer, private physician,

clinic physician, school or industrial physician or a medical advisory committee appointed by the County Medical Society.)

2. It is very important to have clearly defined policies and good administration.

3. The public health nurse must adapt her program to meet the needs of all economic, intellectual, social, religious and racial groups.

4. The public health nurse must understand the importance and value of time and ways of saving time without lowering the quality of service.

5. The working relationship between the nurse, the professional and nonprofessional individuals and groups must be effective.

The public health nurse is only one part of a public health program. If we hope to have healthier individuals and families she must work side by side with physicians, dentists, engineers, health educators and with all groups in the community who are helping people to help themselves to better health.

MAE R. CAMPBELL, R.N.

Supervisor Public Health
District Number 6

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a.m.

BEFORE THE DOCTOR COMES

| | |
|----------------|-----------------------------|
| August 7..... | Foreign Bodies |
| August 14..... | Growing Pains |
| August 21..... | The Nation's Health is Good |
| August 28..... | Doctors Guard Your Health |

WSUI—Tuesdays at 11:45 a.m.

THE DOCTOR'S REPORT

| | |
|----------------|--|
| August 5..... | The General Practitioner and the Adolescent |
| August 12..... | Healthy Communities Don't Just Happen |

BEFORE THE DOCTOR COMES

| | |
|----------------|---------------------------------|
| August 19..... | Sniffles, Sore Throat and Cough |
| August 26..... | Fever |

TELEVISION SCHEDULE

WOI TV at 8:30 p.m.

| | |
|----------------|---------------------------------|
| August 13..... | Is Your Child Ready for School? |
| August 27..... | Your Family Physician |

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chestnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

GENERAL PRACTITIONERS ON THE HOSPITAL STAFF

The 1951 census of hospitals conducted by the American Medical Association showed that there were 4890 general hospitals in the United States, and that 1660, or 34 per cent, of these hospitals had operating General Practice Departments. Most of these departments are modeled after the plan outlined in the Academy's *Manual on General Practice Departments in Hospitals*. To bring this closer to home, there were a total of 107 registered general hospitals in Iowa, of which 45, or 42.1 per cent, reported a General Practice Department in operation. Thirty-three of these departments follow the plan of The American Academy of General Practice. In 39 of our Iowa hospitals general practitioners have privileges in specialty divisions. Percentage-wise, Iowa responds better than average to the establishment of General Practice Departments in its hospitals.

The first problem, after determining to set up such a department, is to answer the question, "How shall we organize it and integrate it with the services of *this* hospital?" We believe this situation is adequately covered under the appropriate heading of the revised *Manual on General Practice Departments in Hospitals*, prepared by the Commission on Hospitals of the American Academy of General Practice and available to anyone interested by writing to the secretary of the Iowa Chapter.

The second question which must be answered is, "What privileges shall be extended to the general practitioner?" The fair answer to this question is obviously based upon the training, preceptorship or experience of the individual practitioner. Adequate discussion of this phase of a general practitioner's work in the hospital, especially from an organizational standpoint, is given in the aforementioned *Manual*.

The third question which necessarily arises is, "What should be the responsibilities of a General Practice Department?" For discussion these have been classified under four headings, namely: (A) Clinical, (B) Medical Administrative, (C) Staff Administrative, and (D) Educational.

The *clinical responsibilities* are denoted in the out-patient service of the hospital where the general practitioner operates the preliminary clinic

and, upon special assignment, may take part in a specialty section out-patient activity. In-patient services, though recognized as the special province of specialty departments, may be performed by selected general practitioners, who are then under the direction of the individual specialty department.

The *medical administrative responsibilities* of the department include deployment of personnel, maintenance of service and record keeping. Thus the general practice department should be responsible for the preliminary diagnostic clinic, the members of the general practice department assigned to work in specialty services, the provision of externship programs, the administration of training wherein general practitioners come into the hospital for intensive training or seek preceptorship training, and last, but not least, the administration, in cooperation with the intern and resident committee, of the general practice intern and resident training program of the hospital.

The *staff administrative responsibilities* of the department include participation in all staff activities of an administrative nature, on proportionate basis with the other staff groups.

The *educational responsibilities* require members of the general practice department to participate, upon proper request, in the education of interns, residents and nurses.

It is expected that the circumstances of the individual hospital will require minor modifications of the American Academy plan to adapt it to local use at times. Likewise, dissatisfaction will arise from certain staff men at times, when these men selfishly fear encroachment on their individual fields of medicine. But we must remember that, as M.D.'s, we are taking an active part in the struggle to keep America free, and it is still the unalienable right of any person in this country to improve his education if he is capable of doing so. There is plenty of work for the good doctor, and training good doctors is one of the first interests of the Academy of General Practice. What goes into a general practice internship to make it a good training is for us, as general practitioners, to decide.

Next postgraduate meeting—Hotel Savery, Des Moines, Thursday, September 18th.

THE JOURNAL BOOK SHELF

BOOK REVIEWS

RHEUMATIC DISEASES, Based on the Proceedings of the Seventh International Congress on Rheumatic Diseases. Prepared by The Committee on Publications of the American Rheumatic Association, chairman, Charles H. Slocumb, M.D. (W. B. Saunders Co., Philadelphia, \$12.00).

The Committee that assembled these proceedings into book form has done a remarkable job of organizing this broad subject into a coherent whole. Practically everything worth knowing about rheumatic diseases is discussed in the light of rapidly unfolding knowledge that is currently transpiring. Much of the confusion existing in physicians' minds regarding the role of ACTH and cortisone is cleared up in these precise, helpful articles.

As the years go by, the nervous system becomes implicated in the etiology of ever more diseases. To those of us in the practice of medicine, fibrositis is an enigma. In an interesting article, a group of authors in this book present convincing evidence of the important part played by nervous tension in the cause of fibrositis. In an even more fascinating chapter, Ludwig speculates on the connection between the psyche and rheumatoid arthritis, presenting a series of cases to help prove his point.

Many of the investigative studies into the pathology of rheumatic diseases, the enzyme and antigen influences and the histological changes, will not interest the practitioner, but they provide a good background for an understanding of the subject. The entire book provides an up-to-date coverage of the rheumatic disease problem.—A. G. Lueck, M.D.

INTRODUCTION TO MEDICAL SCIENCE, by Julius Jensen, Ph.D. and Henry W. Noller, M.D. (C. V. Mosby Co., St. Louis, \$5.75).

This textbook is designed for student nurses. It seeks to supply background material to aid the student in integrating and bringing into use at the patient's bedside knowledge and skills imparted in the courses in nutrition, *materia medica*, social sciences and the nursing arts.

Sections of the text are devoted to the historical and developmental aspects of medical science, the causes of disease, pathology, diagnostic procedures, treatment of disease and the control and prevention of disease. The introductory section on the history of medicine compresses into 32 pages a panorama of the healing art from antiquity to the age of "labor and the welfare state." The physician, as well as the nurse, will find this interesting and instructive reading.

It is a pungent commentary on current hospital practice that in the section entitled, "How the Doctor Makes the Diagnosis," ten pages are devoted to history taking, 16 pages to the physical examination and approximately 100 pages to laboratory diagnosis.

The concluding section on public health includes a compact but careful survey of the federal health pro-

gram and a discussion of medical care, services and costs. Such current developments as voluntary health insurance programs are discussed briefly but adequately.

Review questions and a bibliography follow each unit of the text. A helpful glossary of medical terms concludes the book. Typography and illustrations are above average in quality.—H. J. Smith, M.D.

SURGICAL PRACTICE OF THE LAHEY CLINIC, by Members of the Staff of the Lahey Clinic, Boston, Mass. (W. B. Saunders Co., Philadelphia, \$15.00).

This volume is published almost ten years after the first volume and presents procedures which by frequent repetition have become quite standardized in this clinic. This book is a detailed and well illustrated description of the management of the surgical patients at the Lahey Clinic in Boston today.

This book is devoted mainly to operating room technic and also places a well balanced amount of emphasis on diagnostic methods, selection of cases, pre- and postoperative care, anesthesia, etc.

The book contains 1028 pages. The 784 illustrations on 509 figures are models of clarity and instructive value.—H. G. Ellis, M.D.

THE 1951 YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY (November, 1950-November, 1951), edited by Edward L. Compere, M.D. (The Year Book Publishers, Inc., Chicago, \$5.50).

Dr. Compere is to be congratulated for the compilation of the progress in orthopedics and traumatic surgery during 1951. These year books prove invaluable for reference as to new diagnostic aids and newer concepts of the treatment of various pathological entities. Therefore it is particularly pertinent to physicians dealing with orthopedics and traumatic problems. This text will enable all physicians to keep abreast of the significant advances which have been made in this particular field.—E. M. George, M.D.

THE SPECIALTIES IN GENERAL PRACTICE, by Russell L. Cecil, M.D. (W. B. Saunders Co., Philadelphia, \$14.50).

Dr. Cecil's new book will help you handle effectively many of the patients you would have previously referred elsewhere.

Noted specialists cover 14 specialties—minor surgery, orthopedic surgery, fractures and dislocations, urology, proctology, gynecology, obstetrics, pediatrics, ophthalmology, nose and throat, larynx, bronchi and esophagus, otology, dermatology and psychiatry. These subjects are all presented especially for the general practitioner.

Cases in which expert advice should be sought are indicated. Diagnosis and treatment which fall within the family physician's realm are discussed in detail.—H. G. Ellis, M.D.

(Continued on page 430)

STATE DEPARTMENT OF HEALTH

Walter Diering

IMMUNIZATIONS FOR OVERSEAS TRAVEL

Since the State Department of Health frequently receives requests for information regarding immunizations for travel abroad, we present the following summary from the bulletin prepared by the office of International Health.

Information as to which immunizations are required for travel to any particular country may be obtained from the Passport Division of the Department of State which will mail a blank international certificate of inoculation and vaccination.

The local physician can do any of the immunizations except for Yellow Fever immunizations which, because of the great difficulty of maintaining a potent vaccine, are given only at the port of embarkation or at a U. S. Marine Hospital, or substation.

SMALLPOX

Recommended before travel to any foreign country and is required by the United States for return to this country. Vaccinate at least 14 days before leaving the United States. Observe and record the reaction on the 3rd and 9th days. The certificate of smallpox vaccination is valid for three years. If Yellow Fever inoculations are to be given too, they should be given at least 5 days before the smallpox vaccine is given.

YELLOW FEVER

Give at least 10 days before leaving the country. One injection is required. Certificate becomes valid on the 11th day following vaccination and remains so for 4 years. Rather than spending several days at the port of embarkation many would prefer to go to their nearest U. S. Marine Hospital for the inoculation.

CHOLERA

Start immunizations at least two to three weeks before leaving the United States. The standard course is two injections at seven to 10 day intervals. A third injection is advisable. The International Cholera Certificate is valid for six months from the date of last vaccination. It can be kept in force with booster injections.

TYPHUS

Begin inoculations two or three weeks before leaving the country. Standard Course is two

doses at a seven to 10 day interval. While the certificate is valid for one year, a booster dose is recommended at six months if the danger of typhus is still present.

TYPHOID AND PARATYPHOID

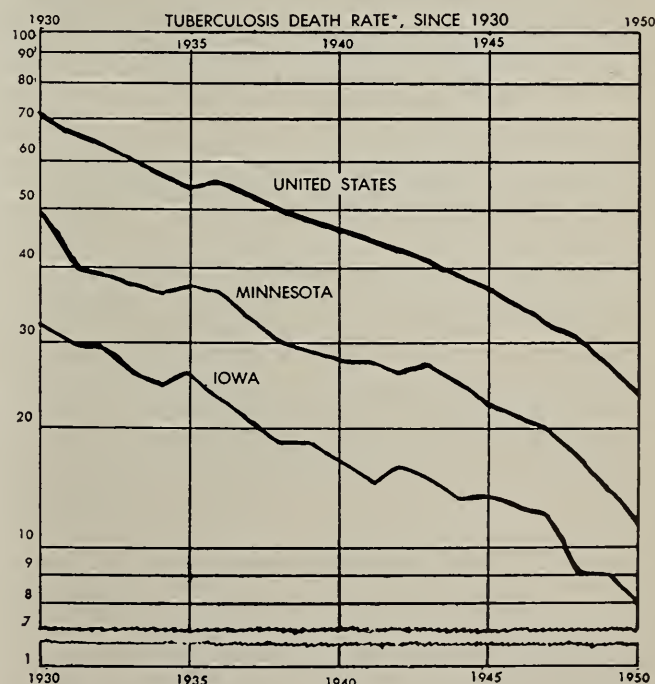
Should be taken by every person traveling abroad. Standard course is three inoculations at seven to 10 day intervals. Annual boosters should be taken.

DIPHTHERIA

Children under 15 who go abroad should be immunized against diphtheria. For travel in some areas of high diphtheria incidence, adults up to the age of 35 should be immunized if their Schick tests are positive.

TUBERCULOSIS DEATH RATES DON'T TELL THE STORY

Many of us glimpse the decline of tuberculosis deaths in Iowa and in the entire United States and think tuberculosis is almost a disease of the past. We say Iowa with the lowest tuberculosis death rates in the nation, can't have a tuberculosis problem. The following chart might give that impression.



UNITED STATES: TUBERCULOSIS NEW CASES, DEATHS
and Ratio of Mortality to Registration, 1935 to 1950.

| UNITED STATES | | | | IOWA | | |
|---------------|-----------|--------------|--------------|----------------------------------|----------------|-----------------------------------|
| YEAR | NEW CASES | TBC.* DEATHS | DEATH RATE** | PATIENTS # ADMITTED TO HOSPITALS | REPORTED CASES | DEATH RATE PER 100,000 POPULATION |
| 1935 | 111,856 | 70,080 | 55 | 86,113 | 480 | 26.2 |
| 1936 | 110,218 | 71,527 | 56 | 99,234 | 713 | 24.1 |
| 1937 | 112,394 | 69,324 | 54 | 101,839 | 538 | 21.4 |
| 1938 | 107,021 | 63,735 | 49 | 100,801 | 776 | 19.3 |
| 1939 | 101,470 | 61,606 | 47 | 90,615 | 753 | 18.9 |
| 1940 | 100,772 | 60,428 | 46 | 90,936 | 591 | 17.2 |
| 1941 | 105,714 | 59,251 | 44 | 101,473 | 552 | 15.3 |
| 1942 | 117,157 | 57,690 | 42 | 101,526 | 622 | 16.0 |
| 1943 | 118,042 | 57,005 | 41 | 91,674 | 729 | 14.9 |
| 1944 | 124,789 | 54,731 | 39 | 88,281 | 1178 | 13.5 |
| 1945 | 117,400 | 52,916 | 37 | 86,186 | 857 | 13.0 |
| 1946 | 118,014 | 50,911 | 35 | 99,741 | 1214 | 12.0 |
| 1947 | 135,624 | 48,064 | 33 | 99,080 | 995 | 11.4 |
| 1948 | 136,778 | 43,833 | 30 | 105,588 | 886 | 9.0 |
| 1949 | 134,455 | 39,100 | 26 | 113,078 | 898 | 10.1 |
| 1950 | 121,228 | 33,557v | 22 | 113,275 | 851 | 8.0 |

* All forms of tuberculosis. v Provisional. ** Per 100,000 population. # As reported by Council on Medical Education and Hospitals, American Medical Association. Rates based on "de jure" population. Population: April 1, 1950 = 151,132,000, including armed forces overseas. Based on reports by courtesy of National Tuberculosis Association and National Office of Vital Statistics.

Now let's look on the other side of the story. Are reported cases declining at the same rates that deaths are? Are our tuberculosis hospitals and sanatoria about to close their doors for lack of patients?

This chart gives a truer picture of tuberculosis. We are still finding cases—in fact more than 15 years ago. Our hospitals are still well filled. With modern case finding methods more tuberculosis is being found in the early stages and can be cured. Furthermore, even in the advanced cases modern medical treatment and care prevents tuberculosis deaths. We willingly admit decreases in tuberculosis. The number of cases today are in indication of better recognition and reporting.

Let's talk tuberculosis case numbers or case rates instead of death rates, and continue our programs of control. We may reshape these programs but we must not relinquish our activities.

MORBIDITY REPORT

| DISEASES | JUNE 1952 | MAY 1952 | JUNE 1951 | MOST CASES REPORTED FROM THESE COUNTIES: |
|----------------------|-----------|----------|-----------|---|
| Diphtheria | 1 | 1 | 0 | Dubuque |
| Typhoid Fever | 3 | 1 | 0 | Dallas, Decatur, Mahaska |
| Scarlet Fever | 23 | 82 | 30 | Clinton, Dubuque |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 693 | 764 | 807 | Buena Vista, Dubuque, Pottawattamie, Wright |
| Brucellosis | 45 | 26 | 56 | Cerro Gordo 4, Franklin 2, Sac 2, others scattered 1 or 2 to a county |
| Whooping Cough ... | 14 | 19 | 73 | Des Moines, Linn, Polk |
| Chickenpox | 161 | 281 | 192 | Dubuque, Linn, Story |
| Meningitis men. | 4 | 5 | 0 | Polk 2, Scott 1, Union 1 |
| Mumps | 88 | 272 | 225 | Black Hawk, Buena Vista, Linn, Pottawattamie |
| Poliomyelitis | 45 | 7 | 7* | Ida 3, Monona 16, Woodbury 13; others scattered 1 to a county |
| Rabies in Animals .. | 43 | 40 | 59 | Hamilton 4, Johnson 3, Sac 3, Story 3; others scattered 2 or 1 case to a county |
| Tuberculosis | 47 | 67 | 64 | For the State |
| Gonorrhea | 31 | 35 | 54 | For the State |
| Syphilis | 72 | 75 | 193 | For the State |

* And 3 delayed.

EDITORIAL

(Continued from page 419)

ment Ruffin and Logerton demonstrated that parenteral administration of anti-cholinergic drugs resulted in prompt subsidence of pain even though an acid barium mixture was seen by x-ray examination to be bathing the ulcer site. This suggests that multiple factors including motility and acid (and possibly inflammation) may be a part in the production of ulcer pain.

It seems certain therefore, that the anti-cholinergic drugs are here to stay. Banthine and Prantal are on the market at present. Undoubtedly more powerful drugs in this series will follow. It also seems likely that this advance represents the greatest step forward in the pharmacology of the gastrointestinal tract and in the treatment of ulcer in the last 30 years.

THE JOURNAL BOOK SHELF

(Continued from page 428)

BOOKS RECEIVED

- CARDIOGRAPHY IN GENERAL PRACTICE. Electrocardiography, Vectorcardiography and Ballistocardiography, by Abraham I. Schaffer, M.D., Assisting Visiting Physician, Metropolitan City Hospital; Assistant Adjunct, Bronx Hospital, Assistant Physician, Flower-Fifth Ave. Hospital. The Williams and Wilkins Co., Baltimore, 1952. Price \$3.00.
- CORRELATIVE CARDIOLOGY: An Integration of Cardiac Function and the Management of Cardiac Disease, by Carl F. Schaffer, M.D., F.A.C.P., Associate Professor of Clinical Medicine, Baylor University College of Medicine; and Don W. Chapman, M.D., F.A.C.P., Associate Professor of Medicine, Baylor University College of Medicine. W. B. Saunders Co., Philadelphia, 1952. Price \$9.50.
- PRINCIPLES AND PRACTICE OF OBSTETRICS, by J. P. Greenhill, M.D., Attending Obstetrician and Gynecologist, the Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, the Chicago Lying-In Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. Tenth Edition. W. B. Saunders Co., Philadelphia, 1951. \$12.00.

SOCIETY PROCEEDINGS

MEETINGS

Audubon

The Audubon County Medical Society held a special meeting in Audubon June 23 to establish the by-laws, rules and regulations for the government of the medical staff of the Audubon County Memorial Hospital.

Blackhawk

Dr. Ben T. Whitaker, Boone, President of the Iowa State Medical Society, addressed the Blackhawk County Medical Society June 19 at the Hotel Russell-Lamson, Waterloo.

Scott

Dr. Atlee B. Hendricks, Davenport, was elected Secretary of the Scott County Medical Association at a recent meeting of the society. He replaces Dr. Harry B. Weinberg.

Southwestern Iowa Medical Society

Dr. Daniel J. Glomset, Des Moines, spoke on "Arteriosclerotic Heart Disease, 1912-1952," May 14 in Creston at a meeting of the Southwestern Iowa Medical Society. Physicians from nine counties were present.

Woodbury

Dr. James E. Reeder, Jr., Sioux City, presented the film, "Embryology of the Eye," at the regular meeting of the Woodbury County Medical Society, June 19 at the Mayfair Hotel, Sioux City.

PERSONALS

Dr. Edward C. Clark, former Assistant Professor of Neurology, Iowa City, was recently appointed consultant in neurology at the Mayo Clinic, Rochester, Minn.

Dr. Ralph De Cicco, Greenfield, has discontinued his practice for a new location in Texas or Arizona.

Dr. Joseph L. Hoernschemeyer, formerly of the Chicago regional office of the Veterans Administration, has joined the staff of Knoxville Veterans Hospital. He was graduated from the St. Louis University School of Medicine in 1929.

Dr. Lindsay J. Kirkam, formerly of Monroe, Mich., has associated with Drs. Claude B. and George I. Tice, Mason City. He is specializing in diagnosis and internal medicine. A 1946 graduate of Washington University School of Medicine, St. Louis, Mo., he interned at Harper Hospital, Detroit, Mich., and completed his residency in internal medicine at Harper Hospital and the Veterans Administration Hospital, Dearborn, Mich.

Dr. John F. Koester, Davenport, has joined the medical staff of the Standard Oil Company of New Jersey, with offices in the Rockefeller Plaza, New York, N. Y.

Dr. Don C. Michaelson, formerly of Humboldt, has formed a partnership with Dr. Robert Mandersheie, Boone. Dr. Michaelson was graduated from the SUI College of Medicine in 1951 and completed his internship at St. Mary's Hospital, Grand Rapids, Mich.

Dr. Maurice Van Allen and Dr. Olan R. Hyndman, formerly of Davenport, have joined the staff of the Veterans Administration Hospital, Iowa City, as neurologist and neurosurgeon, respectively.

Dr. Carl Vorhes, formerly of Marshalltown, has associated with Dr. Kermit W. Myers and Dr. Robert E. Griffin, Sheldon. He was graduated from the SUI College of Medicine in 1951, and served his internship at the General Hospital, St. Louis, Mo.

Dr. Harry B. Weinberg, formerly of Davenport, recently joined the Shapiro Clinic, Tulsa, Okla., limiting his practice there to cardiology.

Dr. Donald E. Wolters, formerly of Atchinson, Kan., has become associated with Dr. John L. Powers, Estherville, in the practice of general medicine and surgery. Dr. Wolters is a 1951 graduate of Creighton University School of Medicine. He served his internship at St. Joseph's Hospital, Sioux City.

DEATH NOTICES

Dr. William Francis Bowser, 71, Davenport Eye, Ear, Nose and Throat Specialist for 30 years, died June 13 at St. Luke's Hospital, Davenport. Dr. Bowser was graduated from the SUI College

of Medicine in 1903. At the time of his death he was a member of the Scott County and Iowa State Medical Societies.

Dr. Ernst Julius Oesterlin, 68, Pathologist at the Mount Pleasant State Hospital, drowned June 13 while swimming in a Mount Pleasant quarry. Dr. Oesterlin, a graduate of the University of Vienna, Austria, 1907, was a member of the Henry County and Iowa State Medical Societies at the time of his death.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of July 10, 1952

| | |
|--|---|
| Ackerman, J. H., Clarksville (Tallahassee, Fla.) ...Senior, Asst. Surg., U.S.P.H.S. | Kuehn, W. G., Clarinda (Oceanside, Calif.) .....U.S.N.R. |
| Alberts, M. E., Des Moines (Seattle, Wash.) .....Lt., U.S.N.R. | Kruse, R. H., Conrad (Pearl Harbor, T. H.) .....Lt., U.S.N.R. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) .....Major, A.U.S. | Kurth, R. J., Waterloo (Minneapolis, Minn.) .....Capt., U.S.A.F. |
| Bartholomew, R. D., Lake City (Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R. | Landis, S. N., Des Moines (Shreveport, La.) .....Major, U.S.A.F. |
| Bartley, R. L., Sully (FPO San Francisco, Calif.) .....Lt., U.S.N.R. | Leiter, E. R. K., Des Moines (Bangor, Me.) .....Capt., U.S.A.F. |
| Benge, D. K., Dows (APO San Francisco, Calif.) .....1st Lt., U.S.A. | McCrary, W. A., Lake City .....Capt., A.U.S. |
| Braatelen, N. T., Des Moines (Camp Carson, Colo.) .....1st Lt., U.S.A.F. | Mangan, J. T., Forest City (San Diego, Calif.) .....Lt. (j.g.), U.S.N.R. |
| Brown, R. C., Mason City (Kansas City, Kan.) .....Capt., A.U.S. | Merkel, B. M., Des Moines (Greenville, S. C.) .....Col., U.S.A.F. |
| Camp, J. R., Thompson (FPO San Francisco, Calif.) .....Lt., U.S.N.R. | Middleton, W. H., Central City (Quantico, Va.) .....U.S.N.R. |
| Carson, R. W., Winterset (APO San Francisco, Calif.) .....1st Lt., A.U.S. | Mitchell, R. C., Iowa City (Yorktown, Va.) .....Lt., U.S.N.R. |
| Coyne, K. M., Burlington (FPO San Francisco, Calif.) .....Cmdr., U.S.N.R. | Montgomery, A. E., Jefferson (APO San Francisco, Calif.) .....Lt. Col., A.U.S. |
| Dalager, R. D., Ottumwa (Annapolis, Md.) .....U.S.N.R. | Mulder, L., Sioux Center (Sioux Falls, S. D.) .....Capt., U.S.A.F. |
| Davidson, M. C., Emmetsburg (El Paso, Tex.) .....Col., A.U.S. | Neagle, P. E., Dubuque (APO San Francisco, Calif.) .....1st Lt., A.U.S. |
| Davis, S. K., Des Moines (Seattle, Wash.) .....Lt., U.S.N.R. | Nicholson, R. W., Paton (APO Seattle, Wash.) .....1st Lt., A.U.S. |
| Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.) .....1st Lt., U.S.A.F. | Nordin, C. A., Des Moines (Lackland Field, Texas) .....1st Lt., U.S.A.F. |
| Dooly, J. E., Fort Dodge (Pleasanton, Calif.) .....Captain, U.S.A.F. | Odell, J. E., Iowa City (Seattle, Wash.) .....Lt., U.S.N. |
| Fitch, R. E., Des Moines (Bangor, Me.) .....1st Lt., U.S.A.F. | Ruble, R. L., Nevada (Camp Chaffee, Ark.) .....A.U.S. |
| From, Paul, West Des Moines (San Antonio, Texas) .....1st Lt., U.S.A.F. | Saunders, R. J., (Colfax) (Montgomery, Ala.) .....1st Lt., U.S.A.F. |
| Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) .....U.S.A.F. | Schultz, M. H., Waterloo .....Capt., U.S.A.F. |
| Greco, D. J., Des Moines (APO San Francisco, Calif.) .....1st Lt., A.U.S. | Shaffer, F. J., Iowa City .....Col., U.S.A.F. |
| Gustafson, J. E., Des Moines (Far East Command) .....1st Lt., A.U.S. | Simonsen, M. N., Sioux City (Oakland, Calif.) .....Lt. Cmdr., U.S.N.R. |
| Jensen, K. V., Newton (San Antonio, Texas) .....1st Lt., U.S.A.F. | Smith, C. B., Iowa City (Fort Jackson, S. C.) .....Capt., A.U.S. |
| Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) .....1st Lt., U.S.A.F. | Stutsman, R. E., Washington (Miami, Fla.) .....Cmdr., U.S.N. |
| Johnson, F. N., Madrid (San Antonio, Texas) .....1st Lt., U.S.A.F. | Tempel, P. F., Steamboat Rock (APO San Francisco, Calif.) .....Capt., A.U.S. |
| Johnson, M. H., Iowa City .....Capt. A.U.S. | Thistlewaite, E. A., Des Moines (Riverside, Calif.) .....1st Lt., U.S.A.F. |
| Keil, P. G., Des Moines (Bangor, Me.) .....Major, U.S.A.F. | Thomas, J. H., Rock Rapids (APO San Francisco, Calif.) .....Capt., U.S.A.F. |
| King, R. E., Des Moines (APO San Francisco, Calif.) .....Capt. A.U.S. | Tice, W. K., Iowa City (Kansas City, Kan.) .....1st Lt., A.U.S. |
| Krause, R. E., Ottumwa (Camp Atterbury, Ind.) .....1st Lt., A.U.S. | Tyler, D. E., Shenandoah (Great Lakes, Ill.) .....U.S.N.R. |
| | Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) .....Capt., U.S.A.F. |
| | von Lackum, L. S., Oelwein (Great Lakes, Ill.) .....Lt., U.S.N.R. |
| | Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) .....Lt., U.S.N.R. |
| | Walz, D. V., Le Mars (Sioux Falls, S. D.) .....1st Lt., U.S.A.F. |
| | Wehrmacher, W. H., Iowa City (Oceanside, Calif.) .....U.S.N.R. |
| | Wiedemeier, J. L., Sioux City (Ft. Sam Houston, Texas) .....1st Lt., A.U.S. |
| | *Wilkins, D. S., Iowa City (APO San Francisco, Calif.) .....Capt., A.U.S. |
| | Witte, H. J., Marathon (San Francisco, Calif.) .....Lt. Col., A.U.S. |
| | Woolfolk, J. H., II, Waterloo (Weaver, S. D.) .....U.S.A.F. |
| | Young, R. A., Clarion (Ft. Sam Houston, Tex.) .....Capt., A.U.S. |
| | Zeilenga, R. H., Orange City (Madison, Wisc.) .....1st Lt., U.S.A.F. |

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1952-1953

President Ben T. Whitaker, Boone
President-Elect..... Robert N. Larimer, Sioux City
First Vice President..... Elias B. Howell, Ottumwa
Second Vice President..... Lester C. Kern, Waverly
Secretary Allan B. Phillips, Des Moines
Treasurer N. Boyd Anderson, Des Moines

COUNCILORS

Term
Expires

First District—Cluley C. Hall, Maynard.....1955
Second District—Charles H. Cretzmeyer, Algona.....1953
Third District—Matthew T. Morton, Estherville.....1954
Fourth District—Paul W. Brecher, Storm Lake.....1955
Fifth District—Ernest M. Kersten, Fort Dodge.....1954
Sixth District—Otis D. Wolfe, Marshalltown.....1955
Seventh District—Harold A. Housholder, Winthrop.....1953
Eighth District—Clyde A. Boice, Washington, Secretary..1954
Ninth District—Elias B. Howell, Ottumwa.....1953
Tenth District—Ivan K. Sayre, St. Charles.....1954
Eleventh District—Oscar Alden, Red Oak.....1955

TRUSTEES

Lonnie A. Coffin, Farmington, Chairman.....1953
John W. Billingsley, Newton.....1954
Wendell L. Downing, LeMars.....1955

DELEGATES TO A. M. A.

Term
Expires

George Braunlich, Davenport.....January 1, 1955
Julian E. McFarland, Ames.....January 1, 1953
Gerald V. Caughlan, Council Bluffs.....January 1, 1954

ALTERNATE DELEGATES TO A. M. A.

Term
Expires

Frank G. Ober, Burlington.....January 1, 1955
Ernest M. Kersten, Fort Dodge.....January 1, 1953
Donovan F. Ward, Dubuque.....January 1, 1954

EXECUTIVE COUNCIL

Ben T. Whitaker, Chairman.....Boone
Robert N. Larimer.....Sioux City
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines
Lonnie A. Coffin.....Farmington
John W. Billingsley.....Newton
Wendell L. Downing.....LeMars
Cluley C. Hall.....Maynard
Charles H. Cretzmeyer.....Algona
Matthew T. Morton.....Estherville
Paul W. Brecher.....Storm Lake
Ernest M. Kersten.....Fort Dodge
Otis D. Wolfe.....Marshalltown
Harold A. Housholder.....Winthrop
Clyde A. Boice.....Washington
Elias B. Howell.....Ottumwa
Ivan K. Sayre.....St. Charles
Oscar Alden.....Red Oak
George Braunlich.....Davenport
Julian E. McFarland.....Ames
Gerald V. Caughlan.....Council Bluffs

THE JOURNAL

Everett M. George.....Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

Ben T. Whitaker, Chairman.....Boone
Robert N. Larimer.....Sioux City
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City
Henry C. Scharnweber.....Boone
Floyd M. Burgeson.....Des Moines

GRIEVANCE COMMITTEE

Term
Expires

Leo C. Kuhn, Decorah.....1954
Leslie W. Swanson, Mason City.....1953
Thomas L. Ward, Arnolds Park.....1954
John W. Bushnell, Sioux City.....1953
Lester D. Powell, Des Moines.....1954
S. Dale Porter, Grinnell.....1953
Joseph W. Lawrence, Dubuque.....1954
Elmer A. Larsen, Centerville.....1954
Lester E. Hooper, Indianola.....1953
Charles H. Flynn, Clarinda.....1954

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines
John W. Billingsley.....Newton
John D. Conner.....Nevada
Ben T. Whitaker.....Boone
Allan B. Phillips.....Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Donald C. Konzett, Chairman.....Dubuque
F. Harold Entz.....Waterloo
Lee F. Hill.....Des Moines
John H. Randall.....Iowa City
George H. Scanlon.....Iowa City

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines.....1953
Loren K. Meredith, Des Moines.....1955
Eugene F. Van Epps, Iowa City.....1954

COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman.....West Des Moines

Insurance

Martin I. Olsen.....Des Moines

Public Information—Doctor-Patient Relationships

Otto N. Glesne, Chairman.....Fort Dodge
Donovan F. Ward.....Dubuque
Cecil W. Seibert.....Waterloo
Edward H. Files.....Cedar Rapids
William M. Sproul.....Des Moines

Veterans' Affairs

Roy C. Gutch.....Chariton

Allied Professions

James E. Reeder, Chairman.....Sioux City

John B. Thielen.....Fonda
Eugene Smith.....Waterloo

Labor and Industry

Tom D. ThrockmortonDes Moines

Hospital and Professional Relations

Callistus H. Stark, Chairman.....Cedar Rapids
Ernest M. Kersten.....Fort Dodge
Gordon F. Harkness.....Davenport
Richard F. Birge.....Des Moines
Charles T. Maxwell.....Sioux City
Arthur W. Erskine.....Cedar Rapids
Nathaniel G. Alcock.....Iowa City

Relief and Health Agencies

Frank D. McCarthy, Chairman.....Sioux City
Social Welfare—Channing Smith.....Granger
TB and Heart—Ralph E. Smiley.....Mason City
Polio—Don H. Penly.....Cedar Falls
Crippled Children, Cancer, Red Cross, Women's Clubs,
AAUW, etc.—John C. De Meulenaere.....Grinnell

Health Education

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—

John D. Conner.....Nevada
Henry C. Scharnweber.....Boone
John J. Shurts.....Eldora

Industrial Health

Raymond F. Frech, Chairman.....Newton
Howard H. Smead.....Des Moines
Stanley T. Moen.....Cedar Rapids
Christian B. Luginbuhl.....Des Moines
Harold A. Spilman.....Ottumwa
Carl J. Lohmann.....Burlington
Leo J. Miltner.....Davenport
Harry A. Amesbury.....Clinton

Rural Health

Dwight G. Sattler, Chairman.....Kalona
Elmer A. Larsen.....Centerville
Bruce F. Howar.....Webster City
James M. Tierney.....Carroll
Robert S. Jaggard.....Oelwein

Geriatrics

Charles V. Edwards.....Council Bluffs

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmond F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Iowa City
J. Donald Hennessy.....Council Bluffs
Richard F. Birge.....Des Moines

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Joseph G. Fellows, Chairman.....Ames
Cecil V. Hamilton.....Garner
J. Stewart Jackson.....Mount Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids
Marcus B. Emmons.....Clinton
Charles C. Graves.....Des Moines
William E. Ash.....Council Bluffs
Gerald R. Rausch.....Sioux City

NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

John W. Ferguson, Chairman.....Newton
Edward M. Honke.....Sioux City
Frank G. Ober.....Burlington
William I. Evans.....Sac City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Rubin H. Flocks.....Iowa City
Willard S. Pheteplace.....Davenport

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Willis M. Fowler.....Iowa City
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Ralph E. Smiley, Chairman.....Mason City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
William Spear.....Oakdale

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, SEPTEMBER, 1952

No. 9

RECTOVAGINAL AND ANOVAGINAL FISTULAS: A SURGICAL PROCEDURE FOR TREATMENT OF CERTAIN TYPES

RAYMOND J. JACKMAN, M.D.
ROCHESTER, MINN.

THE NUMEROUS types of operative procedures devised to repair fistulas in the perineum or rectovaginal septum would indicate that none is without a certain percentage of failure. Considering the multiplicity of etiologic factors which can produce this defect in the septum or perineum, it is only logical that no single operative procedure would be adaptable to all cases. This, plus fear on the part of the surgeon of causing the patient to have rectal incontinence, has probably been the greatest single factor in the creation of many ingenious technics. With the advent of the antibiotics, the improvements in technical procedures and the selection of the operative procedure most adaptable to the type of fistula present, the percentage of failures has been progressively lowered.

Certain factors which influence the type of surgical treatment decided on, or whether it is best to avoid surgical treatment, should be based on consideration of the (1) etiology, (2) symptoms, (3) size of the fistula, (4) location of the fistula and (5) other factors such as nature of the blood supply, thickness of the septum, and presence or absence of infection.

ETIOLOGY

In the study of 554 cases of rectovaginal and anovaginal fistulas seen at the Mayo Clinic from 1908 to 1946 inclusive, Daniels¹ listed thirty-five different etiologic factors. The most common causes were lacerations of childbirth which constituted 32.7 per cent of the cases; carcinoma of the uterine cervix, 10.8 per cent; anorectal infections with abscess and fistula formation, 9.4 per cent; chronic ulcerative colitis with abscess and fistula formation, 7.4 per cent; intrapelvic

operations, 7.9 per cent; perineorrhaphy, 5.1 per cent; and carcinoma of the rectum and rectosigmoid, 4.7 per cent. Many other less frequent causes were listed, but it is obvious from the above that no single operative procedure could be used in all cases and that possibly surgical treatment should not be attempted in others.

SYMPTOMS

In this same study, about one third (150 of the 554 patients) were asymptomatic, that is, the fistula was an incidental finding. In such instances it may be good judgment to leave well enough alone and avoid operation. The most common symptom, of course, was passage of feces and gas through the vagina. Therefore, whether or not surgical treatment is decided on is largely dependent on the patient's symptoms. Certainly the patient's mental attitude should be taken into consideration. Symptoms from the defect in the septum that would cause great mental anguish in some women might be disregarded in others. It is interesting to note that a considerable number of women in this group were entirely unaware of the fact that they had a rectovaginal fistula, while others with a defect of the same size and location had completely ostracized themselves socially.

If the patient has frequent recurrent abscesses in the rectovaginal septum or perineum due to healing of the secondary opening in the vagina, surgical treatment should be advised. Frequently occurring abscesses cause destruction of tissues, scarring and immobilization of muscle with consequent incontinence, so that a proportionately less satisfactory result is obtained from operation.

SIZE OF FISTULA

Daniels¹ grouped the 554 rectovaginal fistulas in his study into four categories as to size: 1. *Small*—diameter less than 0.5 cm. but admitting a probe. This category comprised almost half, or 47.2 per cent, of the entire group. 2. *Large*—diameter 2.5 cm. or greater. The defects or fistulas in this category made up 15.7 per cent of the total. 3. *Medium*—diameter at least 0.5 cm. but less than 2.5 cm. In this category were

From the Section of Proctology, Mayo Clinic, Rochester Minn.

Presented at the 102nd session of the Iowa State Medical Society, Des Moines, April 28, 1952.

13.5 per cent of the total. 4. *Unclassified*—size not accurately recorded. The fistulas in this category made up 23.6 per cent of the total. Naturally the

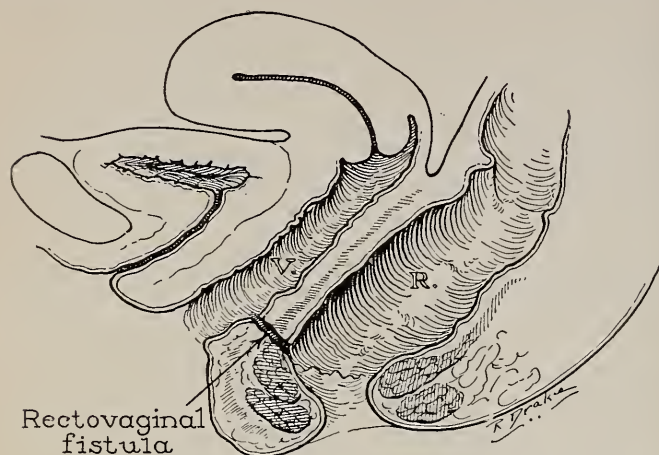


Figure 1. Diagram showing the location of about 60 per cent of all rectovaginal or anovaginal fistulas. This type of fistula would be suitable for repair by the method described in the text.

type of operation selected would vary, depending on the size of the defect.

LOCATION OF FISTULA

The fistulas were placed into five categories on the basis of location: 1. *Low*—those at or near the dentate margin of the anorectum with the vaginal opening at or slightly above the posterior fourchette. These made up 61.6 per cent of the total. The study did not include anoperineal fistu-

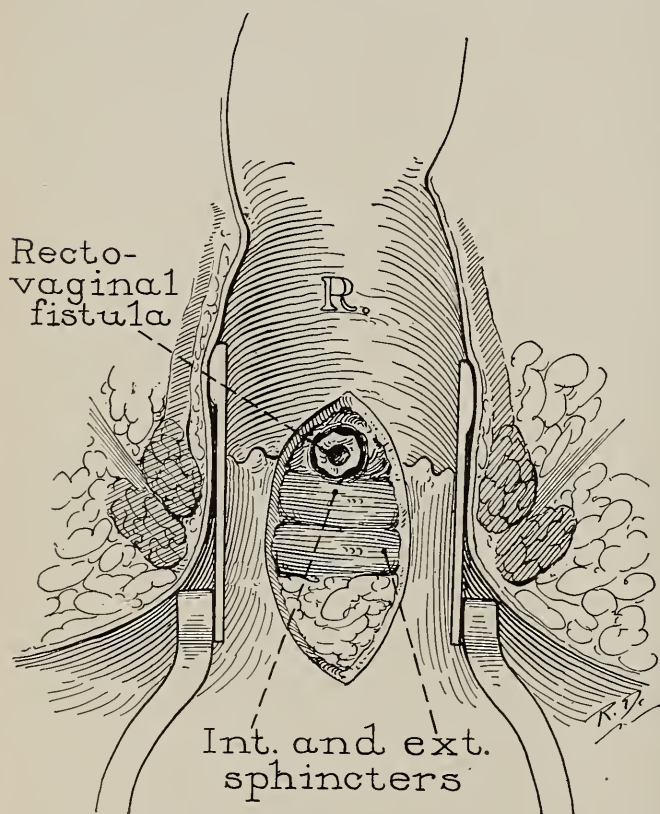


Figure 2. Step 1 showing the approximate outline of the incision in the anorectum around the rectal opening and extending into the anal canal, onto the perineum and down to the muscle layer.

las, many of which would be treated in the same manner as the low-lying fistulas. 2. *High*—those behind or in the vicinity of the posterior fornix, making up 20.8 per cent of the total. 3. *Middle*—those between the "low" and "high" categories, making up 10.1 per cent of the total. 4. *Entire septum missing* or destroyed, making up 0.6 per cent of the total. 5. *Location not accurately recorded*, making up the remaining 6.9 per cent.

The operative procedure to be described subsequently is applicable only to fistulas in the "low" and perhaps some in the "middle" categories which, as indicated from the above figures, represent more than half of the total patients with rectovaginal fistulas.

OTHER FACTORS AFFECTING SELECTION OF PROCEDURE

These would include the presence or absence of previous surgical attempts at repair, the ade-

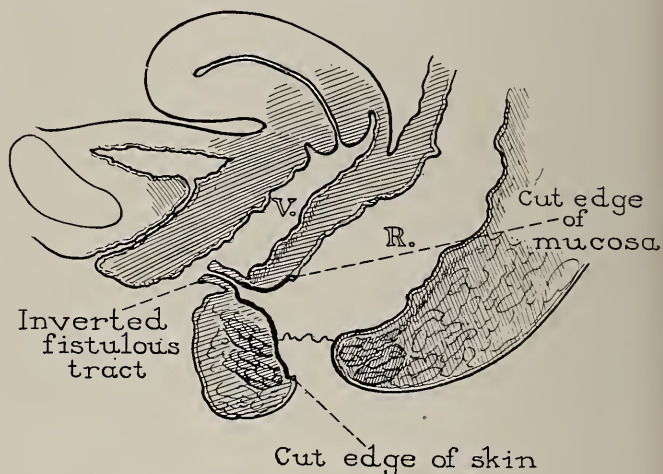


Figure 3. The anterior anal wall of skin and mucosa surrounding the hole along with the fistulous tract itself is dissected off, inverted into the vagina, and then cut off flush with the vaginal wall.

quacy of the blood supply, the thickness of the septum, the amount of scar tissue present, the presence or absence of pus in the fistulous tract and the patient's bowel habits. If the patient gives history of loose or watery stools, incontinence of feces is more likely to occur from the simple "unroofing" operation, if that is the procedure of choice in a given case. Many of the above factors which influence selection of the type of operation to be used, such as the nature of the blood supply, amount of scar and mobility and thickness of the septum, can be determined only by examination with the patient under anesthesia.

METHODS OF DIAGNOSIS

The presence of a rectovaginal fistula may be suspected from the *history and symptoms* of passing gas and feces by the vagina and from the results of *proctoscopic or anoscopic examination* with direct visualization of the rectal opening. If there is any doubt a gentle attempt at passing a probe through the hole should be made. *Vaginal inspection* with the patient in an inverted posi-

tion, using a small vaginal speculum, permits better inspection of the vaginal vault because of atmospheric pressure. In many instances it is better to carry out the proctoscopic and vaginal inspection simultaneously; with the patient in the inverted position, the proctoscopic or anoscopic examination is done first, and then with the proctoscope or anoscope still in place, a small vaginal speculum is inserted. The above procedure is usually combined with attempted probing of the suspected rectal or vaginal source. *Instillation of methylene blue into the rectum* may be helpful. If the fistula or hole is small or difficult to find (keeping in mind that about 60 per cent of them occur at the dentate margin), 10 cc. of 0.5 per cent aqueous solution of methylene blue is instilled into the rectum through an anoscope. A roll of cotton is placed in the vagina and after the patient has walked around for about an hour it is withdrawn and examined to see whether or not any of the dye has come through. Although this test is not infallible it will frequently lead to the diagnosis of a small fistula which cannot be seen or probed. The absence of dye on the vaginal cotton does not absolutely rule out the presence of a fistula since the vaginal side may be temporarily healed. Further, it may be necessary to *examine the patient under anesthesia*. When such an examination is indicated, the patient should be prepared for operation with antibiotics, diet, and douches (to be described in detail subsequently) and the

repair of the fistula carried out at the time of examination.

SELECTION OF PATIENTS FOR SURGICAL TREATMENT

The operation to be described can be applied to probably one half or more of all rectovaginal fistulas. Specifically, it is best suited to small or perhaps medium-sized fistulas in the "low" category which originate in a crypt at the dentate margin with the usual sequence of abscess and then fistula formation. It has now been used successfully in 15 consecutive patients. Two of these had a fairly quiescent chronic ulcerative colitis, one had undergone resection for regional ileitis, one had a medium-sized defect resulting from trauma at childbirth, one had a defect that followed perineal repair and ten had the sequence of crypt infection, abscess and then fistula. In the selection of patients for this type of procedure, it is preferable that there be no active infection such as frank pus draining from either the vaginal or rectal opening and no redness or swelling. In such conditions some type of "unroofing" operation, that is, conversion of the hole or tunnel into an open ditch and thereby permitting the wound to granulate in, may be performed; then possibly perineorrhaphy may be carried out at some later date when all infection has subsided and a good blood supply has been re-established. Likewise, anoperineal or anovaginal fistulas, with a relatively long tract and perhaps multiple secondary perineal or vaginal openings, such as might follow a perineal repair in which inverted

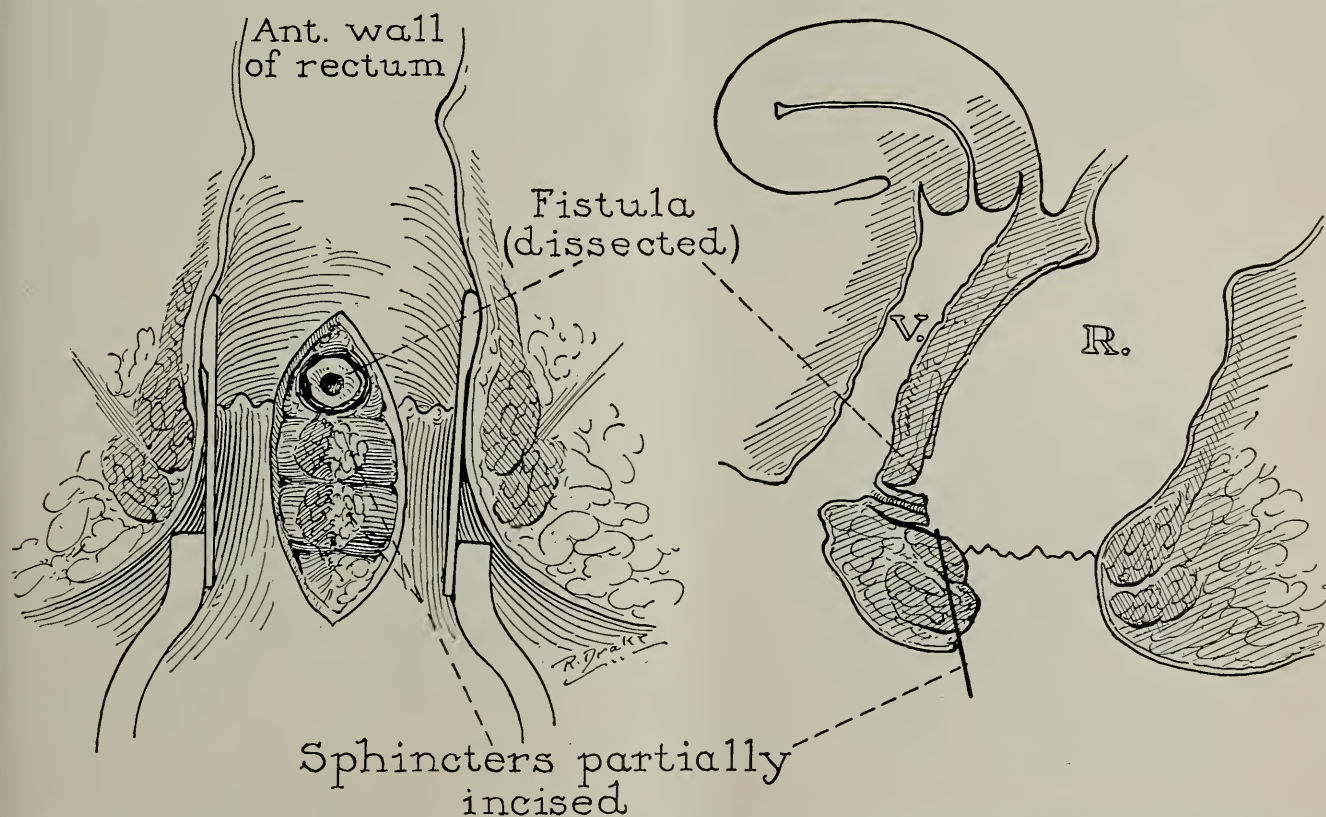


Figure 4. Approximate line of incision of the muscle distal to the hole to facilitate drainage and obviate pressure on the line of closure.

epithelium or perhaps a nonabsorbable suture may be acting as a foreign body, are best treated as on ordinary anorectal fistula by an unroofing operation. Whether or not the perineal repair is subsequently carried out depends on the amount of difficulty the patient has with control of stool and gas.

PREOPERATIVE PREPARATION

The patient should be hospitalized for about two or three days before operation, during which time routine preparation of the large intestine for the operation is carried out. This consists of giving a minimal-residue diet and purgation with 4 to 6 drams of sodium phosphate. Seven hundred and fifty milligrams of crystalline aureomycin hydrochloride is given four times daily until the day of operation and then its use is discontinued. In our experience, continuance of treatment with aureomycin postoperatively will frequently produce diarrhea. In instances in which this has happened, no harmful effects have come from it since the stool is sterile, but it does add somewhat to the patient's postoperative discomfort.

On the morning of operation the patient is given one or more enemas of plain water until the water returns clear. Two normal saline douches are also used. The usual preoperative sedation with barbiturates and morphine sulfate is also used.

Caudal and sacral block anesthesia is the one of choice because of the safety, minimal after-effects and duration of anesthesia.

It is pointed out here that the only novel feature of the technic to be described is the careful adherence to a plan for establishing adequate drainage on both the rectal and vaginal sides.

OPERATIVE PROCEDURE

The patient is placed in the prone position with hips elevated by means of a kidney rest. After preparation of the buttocks and perineum, the fistula is examined on both the rectal and vaginal sides to determine its exact extent, degree of thickness of the rectovaginal septum, extent of any hemorrhoidal condition present, amount of scar tissue, blood supply and size of defect (figure 1).

Dissection of Fistulous Tract.—With the Smith self-retaining anoscope in place, an incision is made around the fistula about 1 cm. from its margin and extended into the anal canal and onto the perineum; the incision penetrates down to the muscle layers (figure 2). Perineal and anal skin, along with any external varicosities that may be present, is dissected away from the muscle. The dissection is carried proximally around the rectal opening of the fistula and is made to include any internal hemorrhoids that may be present. The mucosa is undercut up to the fistula, which in turn is coned out and pulled through or inverted into the vagina. It is then cut off flush with the vaginal mucosa (figure 3).

Incision of External Sphincter.—Some of the anal muscle fibers, principally the external sphincter, which might possibly overhang or interfere with drainage, are then incised starting at the fistula. The incision is carried distally. The amount of muscle cut will depend on the size of the sphincters and the extent to which they will overhang or form a ledge distal to the final suture line. Attempt should be made to judge what the relationship of the muscle to the final closure will be after anesthesia has worn off and tone has been re-established. In this manner, one

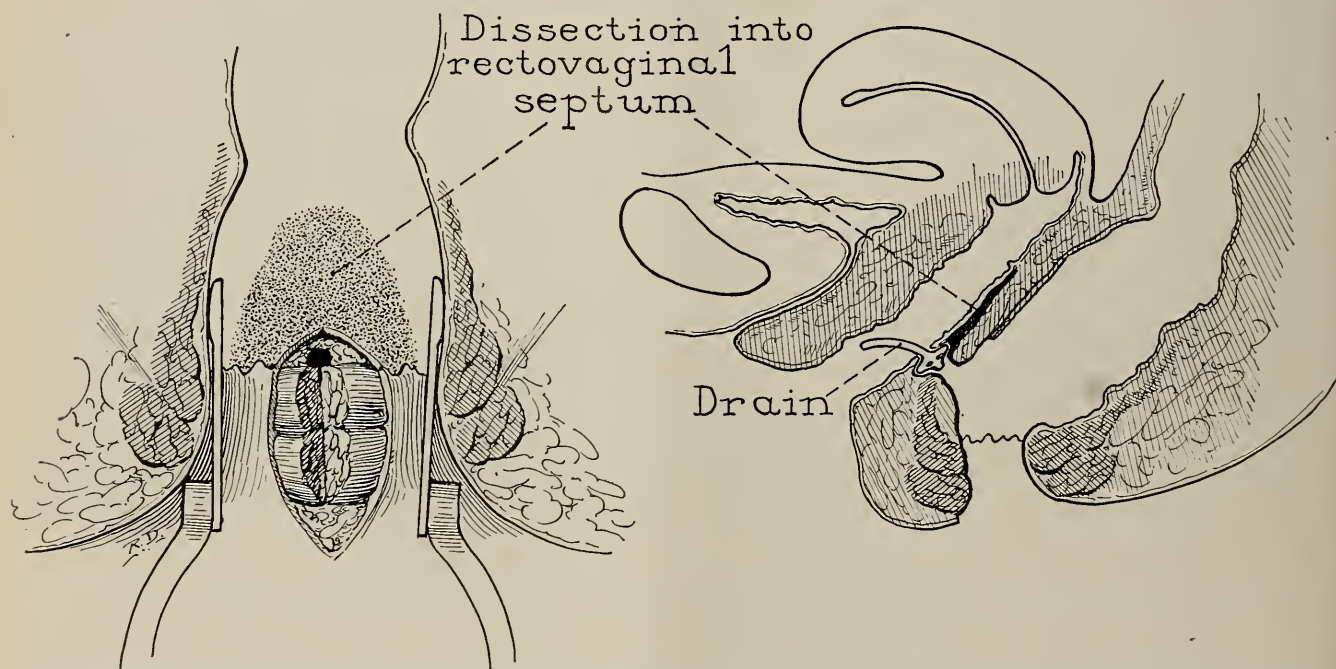


Figure 5. The dissection of the septum is carried close to the vaginal side, producing as thick a rectal flap as possible. It is rarely necessary to dissect into the septum for more than 3 cm.

can determine accurately just how much muscle to incise. It is usually necessary to cut less than 25 per cent of the muscle fibers (figure 4). As the wound heals and the scar forms, the incised fibers pull together. After the first three or four weeks patients who have undergone this procedure have not had any difficulty with control. In my opinion, *the judicious incision of the necessary amount of anal muscles has much to do with the success or failure of this procedure.*

Dissection of Septum.—The purpose of dissecting the rectovaginal septum is to avoid tension on the subsequent suture line. Factors which one must consider in this phase of the procedure are the amount of scar tissue present, the thickness and motility of the septum, and whether or not a good blood supply is present. If there is a good blood supply along with a thick mobile septum, then the dissection need be minimal. It is rarely necessary to create a flap of more than 3 cm. in length, and the dissection should be carried close to the vaginal side; thus, in it should be included rectal mucosa, submucosa and muscularis (figure 5).

Placing a Drain.—Following dissection and testing of the flap for the amount of tension that will be exerted when the flap is sutured to the inner edge of the external sphincter, a thin rubber modified Penrose drain is put in place by pulling it through the now denuded hole into the vagina. The size of the drain has to be adjusted to the size of the hole, the portion remaining in the dead space being larger than the rest of the drain so that it will stay in place and yet can be easily pulled out in about 48 hours without causing much trauma (figure 6). A drain placed in this manner permits escape of blood and serum into the vagina and thus obviates a possible nidus in which infection could start.

Suturing the Flap.—The flap is sutured to the inner border of the external sphincter with a row of interrupted silk sutures. It is important to make sure that the mucosal edge is not inverted, that the sutures bite deeply into the septum and muscle and that they not be tied so tightly as to interfere with the blood supply (figure 6).

POSTOPERATIVE CARE

The patient is continued on a minimal-residue diet with rest in bed to help obviate bowel movements. If she has difficulty voiding, she is permitted to get out of bed for this purpose on the first postoperative day but an attendant should be present. Daily insufflation of aureomycin powder into the vagina and insertion of an aureomycin suppository into the rectum are carried out. The drain is pulled out on the fourth postoperative day. If the patient has a stool, a small enema of plain water is given to wash out the rectum. The sutures are removed between the twelfth and fourteenth days, preferably with the patient under thiopental sodium (pentothal sodium) anesthesia to permit a good inspection of the anastomosis.

SUMMARY AND CONCLUSIONS

No single standard procedure can be adapted to the repair of all rectovaginal fistulas. A relatively simple and effective procedure is described for the repair of certain types of rectovaginal fistula. It would seem that the success of this procedure depends on strict adherence to establishing and maintaining adequate drainage. Drainage beneath the rectal flap is established by leaving the vaginal side open, with a drainage tube into the vagina. Drainage of the rectal side is created by incision of any overhanging muscle

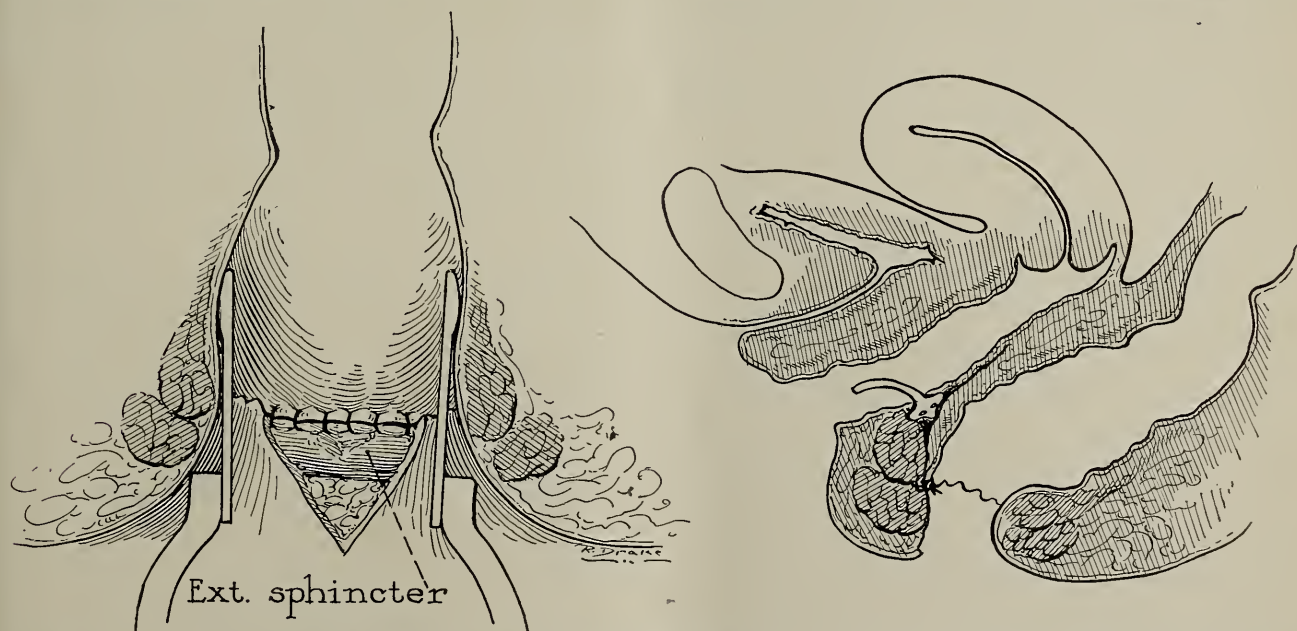


Figure 6. A soft rubber drain is pulled through into the vaginal side, thus obviating an accumulation of blood beneath the flap which is sutured to the inner or proximal edge of the external sphincter.

fibers distal to the line of suture. The procedure can be adapted to small or medium-sized fistulas occurring at or near the dentate margin and resulting from traumatic or inflammatory processes. Tortuous fistulous tracts through the perineal body itself with purulent draining from either the rectal or vaginal opening are best treated by an "unroofing" procedure, débridement of the wound margins to permit healing by granulation and scar formation and subsequent perineorrhaphy if the patient has any difficulty with muscle control. In selected cases the procedure described obviates the necessity of requiring preliminary colostomy or subsequent perineal repair. Judicious use of aureomycin both locally and systemically is an important adjunct in promoting a desirable outcome. The procedure described has been used successfully in 15 consecutive selected cases.

BIBLIOGRAPHY

1. Daniels, B. T.: Rectovaginal fistula: A clinical and pathological study. Thesis, University of Minnesota Graduate School, 1949.

PRACTICAL AIDS IN NEUROLOGIC DIAGNOSIS

ADOLPH L. SAHS, M.D.

IOWA CITY

NEUROLOGIC DISEASES, like other pathologic conditions in the human body, tend to follow characteristic patterns. In certain instances, however, complex features make their appearance, so that considerable difficulty may be encountered before the correct diagnosis is reached and the proper treatment instituted. The family physician has the unique opportunity of watching the condition unfold in a local setting. The individuals and the environment are usually well known to him, and he often can begin his observations during the early stages of the disease. The consultant, on the other hand, must often draw his conclusions from the observation of a relatively short segment of a given illness in an individual who is removed from his normal environment and who is sometimes unable or unwilling to provide the necessary historical data. These disadvantages are sometimes counterbalanced by the fact that the consultant, who has recently arrived on the scene, may be able to be a little more objective than the physician who has been observing the patient for a considerable period of time. Furthermore, the consultant often encounters diseases which are no longer in their incipient stages. Thus the time factor, or stage in which the consultant is asked to see the patient, is often an important element working in favor of the physician who has come upon the problem most recently. I believe that the consultant should remember this fact when he is

tempted to become critical of his colleagues who have puzzled over the case ahead of him.

In spite of some of these minor differences, there are many aspects of disease processes of interest to all of us. The problem of diagnosis may be compared to the viewing of a motion picture. A moving picture film is made up of a series of events, each one having some definite relationship to the other. The diagnostic physician can be compared to the movie-goer who walks into a theater and, after viewing a section of the film, tries to identify the type of picture, to discover the plot and to predict the outcome. A number of diseases are so characteristic that the skilled physician can identify them without difficulty. Certain other diseases are so subtle that their course is not immediately evident. The physician must then watch a considerable portion of the "film" before he can anticipate the course of events. Special tests and diagnostic procedures may become necessary before satisfactory conclusions can be reached. Occasionally the disease is so different from previous ones that no diagnosis can be reached, even though the "film" has been run through to its end.

A carefully developed history is the most valuable instrument with which the neurologist has to work. Constant practice is necessary for accurate history-taking, together with infinite patience and attention to detail. The history should be obtained from all available sources—from the family physician, from the patient, his relatives, and other informants. If it appears that a disorder such as migraine, trigeminal neuralgia, radiculitis or subacute combined sclerosis is in the offing, the skilled questioner will turn his attention more and more to the patient, because the important information will come from that source. Conversely, the description of a convulsive attack or the history of early changes in memory, provided by a competent outside observer, will often be of much more value than the information provided by the patient himself. The proper documentation of the details which make up the history will often provide the correct answer. It should be possible to make a fairly accurate analysis of the problem at hand in at least 75 per cent of the cases by means of history alone.

Failure to obtain the necessary information can usually be attributed to one or a combination of the following conditions: lack of experience by the interrogator, lack of thoroughness and patience on the part of the questioner, inability of the patient to give a correct account of his disease, lack of an accurate outside history, or deliberate withholding of information from the doctor. Lack of experience can be overcome by practice and the constant study of disease, but the abbreviated history will invariably contain embarrassing gaps in its content. Some patients by reason of age, impairment of consciousness, memory disorder, intellectual defect, aphasia, fatigue or indifference, are incapable of providing correct information.

From the Department of Neurology, College of Medicine, State University of Iowa, Iowa City.

Finally, there is the familiar game of hide-and-seek which develops when we try to obtain an accurate history from an individual who is trying to deceive, or who is using his illness for secondary gain.

In difficult situations it is useful to construct the history in a sort of "loose leaf" arrangement, and to try to fill in the gaps at some appropriate time in the future. A patient may produce a surprising amount of material after he has had an opportunity to rest, to familiarize himself with the type of questions he is attempting to answer and to do some independent thinking on the subject of his illness.

So far as the neurologic examination is concerned, the actual mechanics do not ordinarily provide unusual difficulties. Interpretation of the normal picture and its variations, and the alterations produced by disease, can be improved by constant practice. The state of consciousness, type of speech, condition of the cranial nerves, strength of the extremities, coordination, reflexes, sensation, station and gait, present a rather imposing list. I believe that of all these tests, a proper evaluation of sensory function is the most difficult and time-consuming. A portion of the examination which is sometimes overlooked is the observation of the patient in motion, if possible. Conditions such as Parkinson's disease are thus evident at a glance. An unhurried examination is of unquestioned value, and repetitive studies have great merit because they often establish and verify the presence and advance of neurologic deficit. In general, I believe the greatest pitfalls in the neurologic examination are the placing of too much emphasis on minor abnormalities, the failure to re-examine the patient and the over-dependence on laboratory tests to attempt to solve the problem.

Laboratory data are of unquestioned importance in the practice of neurology, but they should be placed in the position of the servant rather than the master. No one will question the fact that the laboratory has contributed enormously to the progress of medicine over the past few decades. "The recognition of these facts, as well as their common acceptance, has led to some curious, if not erroneous, conclusions. Because the laboratory has yielded such brilliant results and given rise to such extraordinary advances, the notion is current that only that which comes from the test tube, to use a colloquial phrase, is scientific medicine. So deep-rooted has this idea become that clinical studies are often looked upon with good-natured condescension."¹ The neurologist must be prepared to discard discrepant or confusing laboratory reports which occasionally find their way into the record. Unless he is prepared with a detailed account of the history and has an accurate record of the neurologic findings, the clinician will find himself unable to perform this task.

Once the history, physical examination and laboratory findings have been given due considera-

tion, what other difficulties can arise? One of these concerns the matter of arriving at a diagnosis prematurely. At this point it might be well to mention the "snap diagnosis." Dramatic in its abruptness, it makes a profound impression on one's patients and young assistants, but often represents a dangerous approach to a patient. A snap diagnosis might be condoned if the physician would immediately proceed to try to disprove it.

Closely allied to the matter of making a diagnosis (pronouncing the verdict) is considering the problem settled. The term diagnosis means "to work through," and indicates that uncertainties no longer exist. Desirable and important as it is to try to make a correct diagnosis, such a happy state is not always obtained. In this connection I was especially pleased to hear one of our pathologists state recently, "If we had not surrounded the description of this tissue with some doubts, you would have 'closed the book' so far as the patient was concerned." A "clinical impression" is perhaps a little deflating to the ego of the physician, and may not satisfy the patient entirely. It does help to keep the doctor alert to other possibilities when an exact diagnosis can not be made at once. An impression is a cumulative affair, one which might have to be verified through the medium of a therapeutic test. Thus such an opinion will at times have to be changed in the face of newly acquired evidence.

Another possible source of difficulty is the failure on the part of the physician to keep abreast of the changing picture of disease. An illness does not ordinarily stand still. The type of disease, the patient's physical response to his illness and his mental reactions often constitute a kaleidoscopic pattern which must be followed with diligence by a physician whose time is at a premium. The findings of last week, yesterday or an hour ago, may fail to apply at the moment. The symptoms and signs of ominous disease may thus go unheeded if the physician fails to adjust himself quickly to the sudden turn of events. In no phase of the practice of medicine is diligence more rewarding than in the prompt identification and treatment of patients suffering from subdural and extradural hematomas.

A fourth possible source of error concerns the problem of the "functional" disorders. No one will deny the importance of the psychosomatic approach. The increased attention directed toward this group of disorders in recent years has resulted in many important contributions. Braceland² states, "... the orientation of the modern physician until the past few years has been almost entirely in the organic and physical sphere, and medical education has been attuned to this bias. Trained as he has been to seek definite pathologic findings in the presence of certain symptoms and complaints, the physician does not take kindly to their absence in emotional illnesses." Emotional factors may constitute the entire problem, or a great proportion

of the problem, or they may enter as an aftermath of crippling physical disease. The physician should try to view the entire picture, and should be prepared to give each phase of the illness his attention.

A word of caution is essential at this point—it is dangerous to assume that a disorder is functional because it is bizarre or obscure. The onset of many serious diseases of the nervous system is marked by symptomatology which might easily be labelled functional. Parkinson's syndrome, neuronitis, multiple sclerosis, expanding lesions of the brain and spinal cord, vascular diseases and the epilepsies are some of the neurologic diseases which seem to offer particular difficulties in this respect. Brock and Wiesel³ state, "The association of neurotic and/or psychotic symptoms with organic disease of the brain is common and generally recognized. At times the combination gives rise to clinical pictures of bewildering complexity, the more so since it is sometimes impossible to separate the basic organic components from the superimposed 'functional'." When the doctor is faced with this type of problem his skill and ingenuity may be put to a severe test.

One is impressed with the number of possible types of illness. The following list is not complete, but it serves to illustrate some of the possible entities and combinations:

1. A clear-cut physical illness, one which is easily recognized and treated. The symptoms are specific and outstanding. Major trigeminal neuralgia is an example of this type of disorder. As the condition is purely subjective, the physician must depend to a great extent upon the patient's description of the pain and the fact that the pain is contained within a definite anatomic pattern. Myasthenia gravis is another definite neurologic disease which should be recognized fairly readily. It is demonstrated particularly through the weakness of the muscles of the eyes, face and throat.

2. A typical mental disorder, such as a depression, for which recognized and effective therapy is available. The patient's description of his feelings, his tension and insomnia and the accounts of relatives of the patient are all-important. Findings uncovered during the neurologic and general physical examinations, as well as the results of the laboratory examinations, are incidental to the main problem.

3. Illnesses which are directly attributable to emotional instability, resulting in a crippling or fatal condition. The chronic alcoholic, who ultimately develops polyneuritis or a subdural hematoma, illustrates this point.

4. The serious physical illness which causes the patient to become emotionally upset as an initial manifestation. The patient is aware of the ominous nature of his disease long before the physician

can find evidence to confirm the diagnosis. Brain tumors, spinal cord tumors, multiple sclerosis, paralysis agitans, cerebral arteriosclerosis and hematorporphyria are a few of such conditions. The physician may be misled into attributing the condition purely to emotional factors, even though the evidence of a neurotic reaction may be limited.

5. Instances in which an original disorder is modified by a second or third condition. The patient with migraine may have only occasional attacks when he is free from unusual stresses. The migraine attacks may reach incapacitating proportions as a result of superimposed emotional factors.

6. The merging or changing picture. An illness may appear as one condition and terminate as another. I recently examined a middle-aged man who had had classic migraine for many years. Two years ago he went through a typical depressive episode, lasting several months. It apparently had been precipitated by family difficulties. During his depression the headaches assumed the character of tense feelings in the suboccipital region. Eighteen months later he developed right temporal headaches and began to lose the function of his left leg. It was difficult to convince him that he needed the services of a neurosurgeon rather than a vacation, even after acquainting him with the neurologic findings, which included a shift of the pineal gland to the left of the mid-line. Operation revealed a parietal lobe glioma.

7. Admixtures of diseases which practically defy delineation. A recent case, presented at a clinicopathologic conference, illustrates this point. The patient had advanced cerebral arteriosclerosis, he developed pyogenic meningitis (which was successfully treated); he evidenced multiple myeloma because of a persistent anemia during the convalescent period; he had a widened aortic arch, and died from rupture of a dissecting aneurysm of the aorta. The autopsy demonstration of additional disease in the form of a carcinoma of the large bowel surprised no one.

SUMMARY AND CONCLUSIONS

A complete and accurate history is the most important instrument with which the neurologist has to work. The importance of re-examining the patient and the fallacy of placing too much emphasis on minor abnormalities have been stressed. Laboratory data are of unquestioned importance in the practice of neurology, but they have their greatest value when used in a confirmatory role. Diagnostic pitfalls and variations of disease patterns have been discussed.

BIBLIOGRAPHY

1. Wechsler, I. S.: Foreword, symposium on psychiatry and neurology. *M. Clin. North America*, 32:555-556 (May) 1948.
2. Braceland, F. J.: Psychiatry: psychosomatic medicine and the general practitioner. *M. Clin. North America*, 34:939-955 (July) 1950.
3. Brock, S., and Wiesel, B.: Psychotic symptoms masking onset in cases of brain tumor. *M. Clin. North America*, 32:759-767 (May) 1948.

RATIONAL FLUID THERAPY IN DAILY PRACTICE

CHARLES M. RYAN, M.D.
SIOUX CITY

ALTHOUGH the term, fluid therapy, includes the therapeutic administration of fluids by any route, emphasis will be placed upon the parenteral use of the various repair solutions. The introduction of these agents into the body by intravenous and subcutaneous injections represents one of the most frequently employed clinical procedures and is invaluable when used with due consideration for patients' needs. During periods when oral intake is insufficient or contraindicated, the requirement for parenteral fluids in a given patient should be determined in accordance with his existing or anticipated imbalances. It is useful to administer water and electrolyte according to plan in attempting to maintain or restore normal fluid and electrolyte balance, but it is essential to subject any scheme adopted to periodic re-evaluation and to prompt revision when indicated. In the initial formulation and continuing alteration of such plans, physiological and bio-chemical information which has been accumulated concerning the body fluids and electrolytes should be correlated with the clinical and laboratory data at hand. The existing state of hydration and acid-base balance, the presence or probable occurrence of any large fluid or electrolyte losses, the composition of such losses and the status of the cardiovascular, renal and pulmonary functions are of fundamental importance. Laboratory observations including a complete blood count, urinalysis, hematocrit reading and determination of the nonprotein nitrogen and plasma protein values provide routine assistance in planning therapy. Additional information may be obtained from determination of the carbon dioxide combining power, urine and serum chlorides and blood sugar as well as from the maintenance of intake-output and weight records. The electrocardiogram is of value in the diagnosis and treatment of potassium abnormalities, and tracings should be obtained if the clinical situation suggests excess or deficit of this ion. Following preliminary survey of the patient, the physician is prepared to cope with the presenting problem in fluid therapy.

One of the most common occasions for the employment of this form of treatment is the provision of ordinary water and electrolyte needs of a patient temporarily unable to take oral fluids, but without apparent abnormality of osmotic, chemical or water balance. Here the problem is simple. One has only to recall the total average daily fluid losses from the lungs, skin and bowel together with the amount of water required for minimum necessary urine volume, and supply the amount parenterally. The minimal daily water excretion, including fecal, urinary and insensible losses in an adult of average size without abnormal losses and

with normal renal function is about 1400 cc.¹ The probable electrolyte excretion under these circumstances is small. Based on minimal losses, the average adult requirement has been calculated to be 1.5 Gm. (26 mEq.) of sodium chloride and 2.9 Gm. (40 mEq.) of potassium chloride.² These minimal expenditures of water and electrolyte are, of course, subject to variation upward but they furnish a useful baseline for planning purposes. The appropriate fluid for the parenteral provision of water to balance insensible losses and to provide for the renal excretion of metabolic wastes is 5 or 10 per cent glucose in distilled water. Solutions containing electrolytes do not meet these needs unless large volumes are given, since a considerable portion of their water content is lost in providing for the excretion of the salt supplied by their use. Glucose, however, is readily metabolized, leaving the water available to offset the described water requirements. The routine inclusion of glucose in the parenteral fluid program is important for other reasons, particularly if such treatment must extend beyond a few hours. In fasting, the first endogenous source from which energy is derived is the body glycogen reserve. After this has been depleted, body fat is used, and the possibility of ketosis arises. Finally, depending on the length of the fast and upon the level of the pre-existing stores of glycogen and fat, tissue protein is broken down. Consumption of the amino acids and release of nitrogen for excretion³ follows. The inclusion of adequate amounts of glucose in fluid regimens thus serves the immediate purpose of protecting glycogen stores and the ultimate purpose of sparing protein. Amounts of glucose in excess of the quantity necessary to insure maximal sparing of protein are undesirable, however, as the surplus is presented to the kidney for excretion, resulting in an increase in renal work and in the plain water needs of the individual. According to Darrow and Pratt, 5 Gm. of dextrose per 100 calories metabolized will induce maximal sparing of protein.⁴ In the majority of adults, the average basal heat production ranges from 1400 to 1800 calories per day.³ Thus the provision of 70 to 90 Gm. of glucose in each 24 hour period would fulfill this requirement.

The minimal needs of the average patient who has no large fluid losses and no pre-existing deficits but who is temporarily unable to eat and drink may therefore be summarized as follows: 1400 cc. of plain water, 70 to 90 Gm. of glucose, 1.5 Gm. of sodium chloride and 2.9 Gm. of potassium chloride. In practice, it is not to be expected that losses will be minimal. Somewhat larger amounts will ordinarily be indicated in replacement therapy. An average plan for patients falling in the category described might include 1500 cc. of 5 per cent glucose in distilled water given intravenously and 250 cc. of isotonic saline given by either intravenous or subcutaneous injection. Routine addition of vitamins is indicated. This is particularly true of thia-

min, the need for which is increased when caloric requirements are being met by the parenteral administration of glucose. During brief periods of therapy in patients who have not been depleted, it may not be necessary to add protein and potassium to the fluid regimen. Otherwise, amino-acid solutions should be given in amounts sufficient to supply about 1 Gm. per kilogram of body weight and potassium should be added to balance the expected losses. Certain precautions are necessary in using potassium parenterally and will be referred to later. Prolonged therapy with potassium-free solutions is one of the routes to potassium deficiency, especially if large amounts of sodium are given. Another reason to give only minimal amounts of sodium chloride is present in postoperative patients who are prone to retain both water and sodium for two or three days after operation⁵ and who tend to develop edema in response to large amounts of saline. On the other hand, amounts of glucose in water which are too far in excess of the minimal needs discussed may result in dilution of the extracellular ionic concentration to a state of hypotonicity.

The basic needs which have been outlined apply generally to adult patients being maintained on parenteral fluids, but in many situations the therapist is not called upon to deal with such simple problems. His plan for fluid and electrolyte administration must then be re-designed to fit the circumstances. The patient who is experiencing losses of water and electrolyte over and above minimal or average expenditures represents such a case. Here it is necessary to estimate as closely as possible the amount and composition of the losses and to increase the supply of water and electrolyte accordingly in order to prevent deficits. Upward revision of the basic program should occur in any patient who is febrile or who is obviously sweating, and in all patients during hot weather. The increased load placed upon the kidney by glycosuria also increases the water requirement. The need for increased water occasioned by impaired concentrating power of the kidneys may be large, and the hyposthenuric individual may have to be given sufficient water to provide for the excretion of several thousand cc. of urine daily. The presence of renal impairment is also important as such kidneys may be deficient in other functions. Among these is the ability to produce ammonia and to handle phosphates with consequent inability to conserve base. Losses through diarrhea, vomiting, gastric or intestinal suction and fistulous drainage also require additions to the fluid and electrolyte needs. These losses should be measured, and volume for volume replacement should be made. In estimating the increased electrolyte needs, attention must be paid to the avenue of loss. Under most circumstances, gastric juice contains only small amounts of sodium relative to chloride. The situation is reversed in the pancreatic secretion. With these ex-

ceptions, the secretions of the gastrointestinal tract contain sodium and chloride in approximate plasma proportions. Sweat is a hypotonic solution of sodium chloride. All of these secretions contain small amounts of potassium. The fluid of choice to compensate for these losses must naturally be a solution of electrolytes, and not glucose in water. If clinical and laboratory findings do not suggest any abnormality in the composition or concentration of electrolytes in the extracellular fluid, replacement of losses may be made with isotonic saline or lactated Ringer's solution. The inclusion of potassium has been recommended in the prevention of anticipated deficits^{6, 7} especially during the postoperative period. Potassium chloride solutions are available and may be added to glucose or saline solutions included in the fluid regimen. In accordance with the minimal losses already discussed it appears that 3 Gm. per day (approximately 40 mEq.) should prevent the development of a potassium deficiency. Anuria, oliguria, nitrogen retention and dehydration are contraindications unless reliable evidences of a low serum potassium are present.

If the basic needs have been met and if all losses of fluid and electrolyte in excess of minimal losses have been adequately replaced in patients who were free of pre-existing abnormalities, an ideal therapeutic goal has been reached. The patient who is dehydrated, acidotic or alkalotic prior to presenting himself for treatment, however, or the patient who becomes so under observation, presents further problems in fluid therapy involving replacement and correction in addition to maintenance.

Dehydration will be considered first since marked impairment of renal function may be expected and since the restoration of maximal renal function facilitates correction of acid-base abnormalities. Effective renal blood flow must be promptly restored by increasing plasma volume in order that glomerular filtration will be resumed. Other factors may be present in addition to or in association with dehydration *per se* which lead to impaired renal function. Of great importance is shock.⁸ The term, dehydration, incorrectly implies that only water is lacking. There is always associated loss of electrolyte since the loss of either creates an obligatory loss of the other in an attempt to maintain normal ionic concentration in extracellular fluid. The electrolyte loss may be more extensive. In this case the dehydration will be hypotonic, or the reverse may occur and produce a hypertonic dehydration. The presence of the fluid volume deficit can be determined clinically, but laboratory assistance is necessary to determine concentration deviations finally, although they may be estimated from the history. Marked dehydration is usually accompanied by an acid-base disturbance. This most frequently takes the form of a metabolic acidosis. An alkalosis may occur, however, if chloride loss

has been extensive. In initial therapy aimed at restoration of plasma volume and renal blood flow, isotonic saline may be given, followed by whole blood or plasma if necessary. If the clinical and laboratory findings of an uncompensated acidosis are present, M/6 sodium lactate in water is indicated to restore the level of extracellular base. It should be continued until hyperpnea is relieved. Sodium lactate should be replaced by isotonic saline when this point is reached.

When renal function has been restored, correction of any remaining deficits of water and extracellular electrolyte may be undertaken, and attention may be given to the probable need for potassium replacement. Darrow^{4, 6} and others⁹ have pointed out that dehydration and acidosis frequently involve a deficit of total body potassium as well as losses of sodium, chloride and water, and that alkalosis may be caused or maintained by a potassium deficit. Loss of potassium apparently occurs in many circumstances, most of which depend on its replacement in the cells by the transfer of sodium from the extracellular fluid. This transfer is accelerated by anoxia, shock, parenteral fluid treatment with potassium free solutions and by the failure of carbohydrate metabolism in diabetic acidosis.⁶ Plasma levels are thus increased with resultant urinary loss of this ion. Diuresis occurring after the mobilization of potassium from its intracellular location may result in large losses. If chloride loss such as may occur with upper gastrointestinal suction has occurred and has been treated with potassium-free solutions, potassium loss may result in an alkalosis which will not respond to further treatment with saline but which improves upon the addition of potassium to the fluid regimen. A similar type of alkalosis has been described following surgical trauma, and has been attributed to the potassium loss incident to the adrenocortical response to pituitary ACTH.⁷ Attempts to prevent the occurrence of symptoms related to disordered potassium balance and to treat them after development make it necessary to consider fluctuations in intracellular and extracellular levels. In the absence of facilities for determination of potassium in serum and cells, and even with such equipment, it is important to look for trouble in situations in which it is known to occur. The appearance of weakness, nausea, intestinal distention or respiratory difficulty in a patient with large fluid losses, in a postoperative patient with evidence of alkalosis or in a patient being given ACTH or cortisone, should direct attention to the possibility of potassium deficiency. Confirmatory electrocardiographic evidence may be found in prolongation of the QT interval associated with lowering or inversion of the T waves, depression and prolongation of the ST segments and AV block. The onset of weakness or flaccid paralysis, confusion or vascular collapse is compatible with increasing levels of potassium in serum in patients to whom potassium is being administered,

as well as those individuals with advanced renal insufficiency. Electrocardiographic signs of hyperkalemia include the appearance of high peaked T waves and widened QRS complexes. Delay in intraventricular conduction parallels increase in serum potassium, eventually culminating in cardiac arrest.

Space will not permit a review of measures which have been advised in the treatment of hyperkalemia, but the prompt recognition of the syndrome in those being treated with potassium is of the utmost importance in order that additional and possibly fatal increments of this ion may be withheld. The prevention of potassium depletion has been referred to briefly. It involves the administration of potassium in those circumstances in which a negative balance may be anticipated, and the avoidance of excess amounts of sodium chloride in parenteral fluids. Treatment of the developed syndrome differs only in a quantitative manner, requiring the administration of somewhat larger amounts of potassium over a period of time sufficient for restoration to occur. When reliable evidence of low serum potassium is present, the administration of 6 Gm. of potassium chloride (approximately 80 mEq.) per day has been recommended.⁷ Repeated clinical and electrocardiographic observations are indicated to determine the end point of such treatment.

There are many other aspects of parenteral fluid therapy which are of importance, but which can only be mentioned. These include the management of the oliguric or anuric patient, the selection of fluids appropriate for correction of disordered extracellular electrolyte concentration, fluid therapy in the cardiac patient and in the patient with diabetic acidosis. Numerous other problems, such as disorders of acid-base balance having their origin in altered respiratory function, the occurrence of acute calcium deficiency in patients being treated for potassium deficits and for acute pancreatitis and the management of the severely traumatized or burned patient can also only be mentioned. Regardless of the presenting clinical situation, however, the guides to rational fluid therapy are found in careful attention to physiological mechanisms, to the changing state of the patient during treatment, to available laboratory data and to the selection and administration of parenteral fluids according to a definite plan based upon firm foundations. It should not be forgotten that the earliest possible resumption of an adequate oral intake of food and liquids is indicated in all cases.

SUMMARY

A scheme for the selection of repair solutions appropriate for parenteral use in patients presenting varying deviations from normal in fluid and electrolyte balances has been discussed.

Emphasis has been placed upon the anticipation

of losses and upon the prevention of deficits by the selective use of parenteral fluid and electrolyte.

BIBLIOGRAPHY

1. Gamble, J. L.: *Chemical Anatomy, Physiology and Pathology of Extracellular Fluid, A Lecture Syllabus*. Cambridge, Harvard University Press, 1942.
2. Darrow, D. C.; and Pratt, E. L.: *The regulation of body water and electrolyte in health and disease*. Oxford Medicine, 1:941-1001. Oxford University Press, Inc., London, 1952.
3. Best, C. H.; and Taylor, N. B.: *The Physiological Basis of Medical Practice*. The Williams and Wilkins Co., Baltimore, 1945.
4. Darrow, D. C.; and Pratt, E. L.: Fluid therapy. Relation to tissue composition and the expenditure of water and electrolyte. *J.A.M.A.*, 143:365-373, 432-439 (May) 1950.
5. Coller, F. A.; Iob, V.; Vaughn, H. H.; Kalder, N. B.; and Moyer, C. A.: Translocation of fluid produced by intravenous administration of isotonic salt solutions in man postoperatively. *Ann. Surg.*, 122:663-677 (October) 1945.
6. Darrow, D. C.: Body fluid physiology: The role of potassium in clinical disturbances of body water and electrolyte. *New Eng. J. Med.*, 242:978-982 and 1014-1018 (June) 1950.
7. Eliel, L. P.; Pearson, O. H.; and Rawson, R. W.: Potassium deficit and metabolic alkalosis. *New Eng. J. Med.*, 243:471-477 and 518-523 (September, October) 1950.
8. Van Slyke, D. D.: The effects of shock on the kidney. *Ann. Int. Med.*, 28:701-719 (April) 1948.
9. Lans, H. S.; Stein, I. F.; and Meyer, K. A.: The relation of serum potassium to erythrocyte potassium in normal subjects and patients with potassium deficiency. *Am. J. M. Sc.*, 223:65-73 (January) 1952.

EXTERNAL OTITIS: A SPECIFIC DISEASE ENTITY

HUBERT L. CLINE, M.D.

AURORA, COLO.

A RELATIVELY momentous contribution in the study of the pathogenesis of external otitis was the introduction by Kos in 1949 of a photomicrograph depicting inflammatory changes in the corium of the skin of the external canal.¹ The lamentable lag in correlating the pathologic and clinical pictures derives from the fact that the disease has never been considered a serious one because it is one of morbidity without mortality. This correlation has been elaborated by Senturia² and corroborated by Senear,² so that at present a clear concept is being evolved.

The correlation of such factors as the contributing organisms, the structural and functional anatomy, biochemical considerations, hygiene and climate, has only recently begun to answer some of the questions concerning etiology of external otitis.

It has been substantiated that a variety of microorganisms contribute to the microbiologic flora of external otitis.^{3, 4, 5, 6} The prevalence of *Pseudomonas*,^{7, 8} the *Bacillus pyocyaneus*, has not only narrowed the variety of "shelf remedies" which have accumulated since Schwartz introduced leeches inside the tragus in 1867;⁹ it has reduced the drug sensitivities promulgated by many of the variety.¹⁰ The concomitant existence of other bacteria as well as fungi such as *Aspergelli*, *Pencillia* and *Monilia* is admittedly unquestioned.^{5, 11, 12}

The gross and histologic anatomy and functional

peculiarities of the external canal appear to have a considerable bearing on the incidence of disease.¹ Quayle reported on external otitis in four hundred troops, two hundred of which were New Guinea natives: he found no external otitis in natives and attributed this to the fact that the external canals of the natives were wider and straighter, therefore providing better ventilation.⁴

Over the outer cartilaginous portion of the canal skin appendages are present. Sebum from the sebaceous glands contributes largely to the fatty acids forming cerumen. Ceruminous and sebaceous glands are closely allied. According to Eggston and Wolff,¹³ there is no microscopic difference between the two types of glands in children. The secreted cerumen and desquamated epithelial detritus are stopped by the protective ring of hairs at the outer end of the canal.¹⁴ Internally, over the osseous portion of the canal, there are no skin appendages and only a thin layer of skin is present. Therefore, the canal has little protection other than that afforded by its hidden tortuosity, once the outer barrier is broken. The relationship of the tragus to the concha is commonly seen to vary, and in some instances the humid, dark, fertile corridor is nearly closed at both ends.

A matter vitally considerable is the acid base relationship of the skin of the external canal. In adult males the pH range has been found to be from 5 to 7.8 and in females from 5 to 7.6. In the male infant the range is 5.6 to 7.8 and in female infants from 5.2 to 7.4.¹⁵ This enveloping acid mantle forms a protective barrier for the skin surface and exhibits pronounced defense against bacterial invasion. Fungi and certain bacteria have long been known to propagate best in an alkaline media which, along with moisture and desquamated keratotic epithelium, contributes signally to the disease. Using nitrazine paper, repeated tests on a series of patients with external otitis at University Hospitals gave an average pH of 7.25.

One of the currently recognized factors concerns patient indulgence in penetrating the protective mechanism of the outer ear. A toothpick, hairpin or towel may open avenues for the waiting microbiologic invaders and create abnormal proximal or peripheral tissue response. Bathers and swimmers often fail to dry the ears, thus laying a soaked blanket of occult inflammation which sags into the crevice provided by the scratch of a fingernail.

Furthermore, increase in temperature and humidity as governed by climate, increases the incidence of external otitis. This accounts for the prevalence of the disease in the tropics.^{16, 17} In temperate zones gram-positive organisms sustain the incidence of over-all otogenic infection during the colder months. Gram-negative bacteria predominate during the summer.¹⁶ Each of these factors lends impetus to a series of contributing events which together are now known to predispose to the disease.

From the Department of Otolaryngology and Oral Surgery, University Hospitals, Iowa City.

Assume, then, that the stage is nearly set by these cumulative conditions, one of which may serve as the precipitating agent. For example, if the canal is traumatized, there occurs a consecutive chain of events producing a specific pathologic process. Ulceration of the epidermis occurs as the gram-positive forerunners invade the superficial epithelium. This is followed by infiltration of acute inflammatory cells in the dermis, along with intercellular or interstitial edema, mainly in the outer portion of the canal. There is accompanying dilatation of blood vessels and lymphatics. This is an explosive reaction producing the precipitately sudden pain of acute hyperemic external otitis. It may be unilateral or bilateral, possibly depending on a particular combination of these known etiologic factors. There is gross reddening due to the hyperemia of the entire canal wall, with concurrent involvement of the tympanic membrane. The drum membrane can frequently be visualized, due to the relative lack of edema, attributed by some to the superficial nature of the process; however, varying degrees of edema of the outer canal are observed. Cytologic examination of secretions reveals a uniform picture of epithelial cells, large numbers of bacteria and a striking absence of leukocytes.¹⁸ The apparent spontaneity of onset does not belie the history, in so far as the first manifestation is usually pain. Hemorrhagic granu-

and *Pseudomonas aerogenes* helps establish a stubborn irritating dermatologic disorder.

The main complaint in chronic external otitis is itching, burning or both. The pathologic activity leading to these symptoms is now known to be minutely specific. In the event of prolonged irrita-



Figure 1. Normal skin of posterior canal wall in outer third of canal—Adult.

lations may occur in localized areas and give rise to the clinical picture of myringitis granulosa.¹⁹ These raw tufts are primed for reactionary sensitivity by poor blood supply, limited ventilation and innocent security from mechanical or natural modes of cleansing. This sensitivity is hastened by many common antifungal and antibacterial drugs.^{20, 21} It may be reflected by the existence of small bullae which rupture degenerative suspensions nutrient to proliferative organisms.

If treatment is promptly instigated and continued, the process should resolve in a matter of days. If not, the chronic phase of the disease is in order,



Figure 2. Superficial inflammatory ulcer in acute hyperemic external otitis. Hair follicle present in center of ulcer.

tion of the normal skin of the canal, the decomposition products of desquamated hyperkeratotic debris accumulate. The migratory process of the stratified squamous epithelium from the stratum germinativum is aborted by failure of poor cornification, which follows exposure to heat and humidity, and poor evaporation of sweat from the canal. This allows imbibition of moisture with resulting maceration. The ducts of the sweat and sebaceous glands are obstructed by the hyperkeratotic debris whereupon the antifungal and antibacterial elements are not secreted. There may conceivably be diffusion of the retained sweat into the epidermis.² Growth of the environmental microbiologic flora is thereby enhanced and can be demonstrated. The dermis reacts with the usual chronic inflammatory process. Subsequent healing, however, is unusual because of the enumerated anatomical and environmental peculiarities to which it is subjected. A vicious circle of perivascularitis, resulting in diminution of the blood supply followed by compensatory inflammation, is established. Because of the varying degrees of response,

variation in gross findings occur. The canal may be beefy and granulomatous, moist or dry and flaky. This appears to depend upon the particular phase of the process in effect at the time it is examined. It has often been clinically observed that wax secretion in itching or inflamed ear canals undergoes total suspension.^{22, 23} It cannot be



Figure 3. Hyperkeratotic debris plugging follicle with dense chronic inflammatory infiltrate in dermis.

otherwise in view of microscopic sections revealing plugging of the ducts.

A clinical classification may then be made if it is fully realized that different manifestations of one disease process are being observed. Simply, the disease may be acute or chronic. If chronic it may be exudative, desquamative or granulomatous.

The diagnosis of external otitis is not simple in all cases. Recently a student's wife was seen in the Out Clinic in University Hospital. She complained of relentlessly severe pain over the left mastoid process and in the left ear. The examination disclosed the physical findings of acute mastoiditis. Law's x-ray studies of the ears were interpreted by the radiologist as clouding of the left mastoid cells. Laboratory studies revealed a leukocytosis of 13,000. The audiogram indicated a bilateral mild middle ear hearing loss; however, there was evidenced slight increased bone conduction, further to complicate the picture. A history of previous episodes of pruritis weighed heav-

ily in determining treatment. In three days the process localized postauricularly and drainage resulted in complete remission. A pure culture of beta hemolytic streptococcus was obtained.

Furunculosis is often classified as external otitis, which it is, in so far as it is an inflammatory process of the external canal. It is not, however, external otitis as described here. A circumscribed, elevated, exquisitely tender area is seen in the outer canal involving one or more hair follicles. This, however, is also found in the vestibule of the nose, on the neck, in the axilla, groin, etc. Furunculosis is caused by staphylococci. It has been observed that neutrophils are seen in smears from furunculosis or so-called circumscribed external otitis in contradistinction to diffuse external otitis, where they are not found.¹⁸

Contact dermatitis may extend into the external



Figure 4. Plugged, dead hair follicle causing distention of gland and fragmentation of cells in gland. Chronic inflammation present in dermis.

ear. However, as in seborrheic dermatitis, adjacent areas are involved. The identical entity may result from a chronically discharging middle ear, the diagnosis of which is obvious.

Neurodermatitis is a term often mentioned; however, its existence is doubtful. This is actually lichen simplex, due to nervous massage of the affected part, and does not differ pathologically from chronic external otitis.²⁴ A variety of clinical entities can be mentioned, but their description here is without purpose. Some investigators are at-

tempting to establish a relationship between the chronic eczemoid disorders. These include external otitis and epidermophytosis, and the collagenous diseases such as rheumatoid arthritis, erythema multiforme, endarteritis obliterans, etc.; however, that relationship is not substantiated.



Figure 5. Patient with post auricular edema and signs of acute mastoiditis.

The treatment of external otitis must be based on a thorough understanding of the pathogenesis. Treatment must accomplish the following: (1) control of the acute bacterial inflammatory process, and (2) restoration of component function to the skin of the canal. In the acute case, palliation may be accomplished by both local and system

measures. Salicylates or opiates should be given systemically, as well as wide spectrum antibiotics. Locally the pain producing obstructive edema may be reduced materially by mildly acid drugs containing the acetate radical. Aluminum acetate (Burrows solution) and metacresylacetate (cresatin) give good results. Application of dry heat has proved beneficial. Bacitracin ointment is effective in combatting the proteolyzing gram-positive staphylococci and streptococci, but the drug should be discontinued if any signs of sensitivity occur. Aqueous boric acid ointment in a water soluble base is soothing and also efficacious as a step toward restoring the acid mantle. Control of edema is paramount to the common denominator of treatment in either the acute or chronic case. The common denominator is methodical, meticulous, manual cleansing. In some cases the removal of debris, following reduction of edema, will cause complete remission of the process. This may be accomplished by irrigation; however, moisture tends to aggravate the situation. Cleansing is best accomplished under magnified visualization using a bent number 15 or number 17 filed spinal aspirating needle with which all semblance of debris is removed from every niche of the canal. This must particularly include the anterior tympanomeatal recess, which the needle can readily be bent to reach. With this method efficiency of removal is high and trauma is minimal.

The restorative phase of the treatment is brought about by control of the invading organism, acidification of the canal, restoration of depleted lipoids, daily removal of debris and early prophylactic measures. In the chronic phase of the disease the bacillus pyocyaneus is resistant to most bactericidal

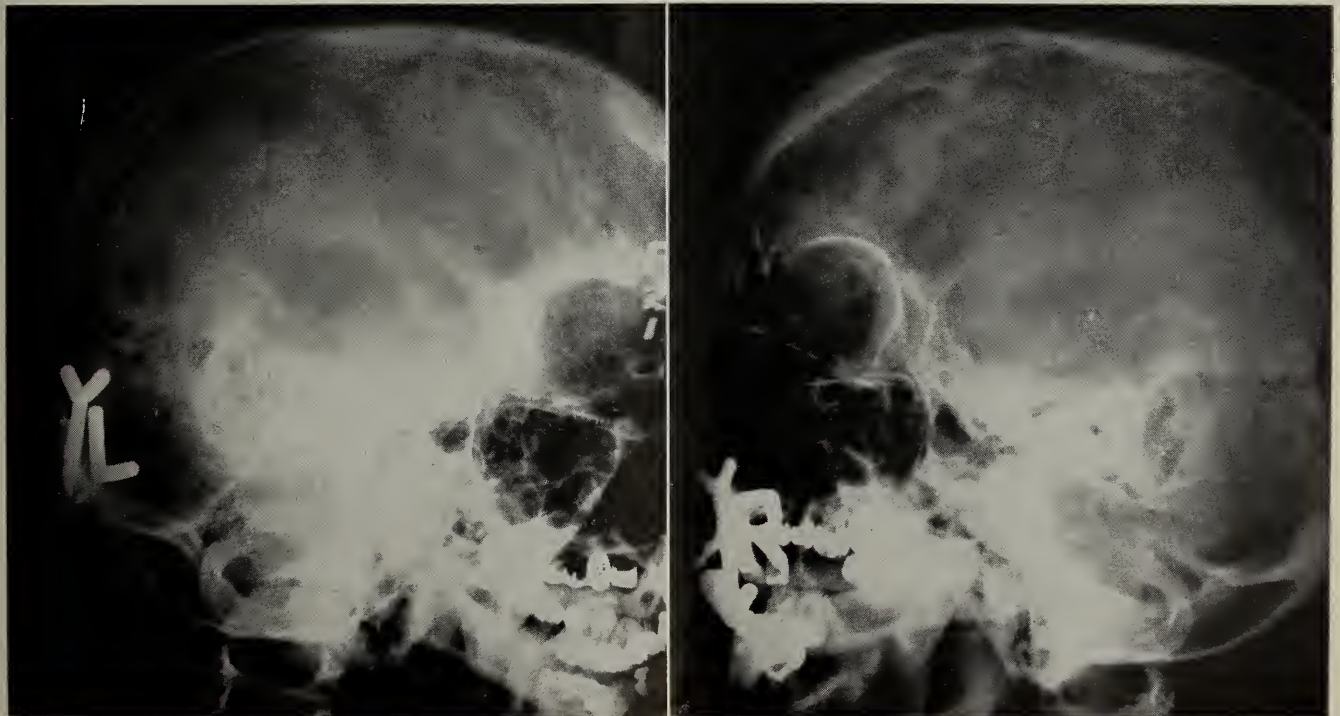


Figure 6. Law's views of mastoids showing apparent clouding of air cells on the left.



Figure 7. Localized acute hyperemic external otitis.

and bacteriostatic agents commonly employed. To date there has been favorable response with no observed sensitivity to polysporin. This is a mixture of aerosporin and bactricin in aqueous solution which is instilled into the canal. Two or three per cent acetic acid drops used daily is ideal for acidification. It does not produce sensitivity. In some cases this has had to be continued for several



Figure 8. Oil immersion view of smear from chronic diffuse external otitis. Area shows desquamated epithelial cells, debris and clumps and chains of bacteria.

years. Five to ten per cent boric acid in anhydrous lanolin has been suggested for restoration of depleted lipoids. Early application to the canal of approximately 12 hours duration is advised.² There is no substitute for thorough meticulous aspiration of the canal; this is difficult to overemphasize. The restorative phase may further be enhanced by prophylactic measures instigated to interrupt the vicious circle of reinfection. A simple explanation to the patient regarding the disadvantages of digital manipulation may be responsible for terminating the disease. Severe pruritis may be controlled by the following: acetic acid, 1 part; menthol, 3 parts, and 70 per cent alcohol q.s. to 100. It is understood that any drug should be discontinued once it has served its purpose.

Conclusion: Because of specialty interests in medicine, investigators in different fields tend toward independent theories relative to many disease processes. It is often not until clinical pathologic correlation is established that the disease is understood and can be brought to its knees. In the light of introduced pathologic evidence it would seem that external otitis should no longer be regarded as a frustrating medical mystery. The purpose of this paper is to solidify the present concept of the two phases of external otitis and thereby establish reliable methods of management for these cases.

BIBLIOGRAPHY

1. Kos, C. M.: Evaluation of the diagnosis and treatment of external otitis. *J. Ia. Med. Soc.*, **39**:560-567 (December) 1949.
2. Senturia, B. H.: Diffuse external otitis; its pathology and treatment. *Tr. Am. Acad. Ophth.*, Special Supplement (November, December) 1951.
3. Gill, W. D.: Mycotic infections in otolaryngology. *South M. J.*, **31**:678-685 (June) 1938.
4. Quayle, H. F.: Otitis externa in New Guinea. *M. J. Australia*, **2**:228-231 (Sept. 2) 1944.
5. Syverton, J. T.; Hess, W. R.; and Krofchuk, J.: Otitis externa; clinical observations and microbiologic flora. *Arch. Otolaryng.*, **43**:213-225 (March) 1946.
6. Hayes, M. B.; and Hall, C. F.: Management of otogenic infection. *Tr. Am. Acad. Ophth.*, **51**:149-163 (January-February) 1947.
7. Nelson, R. F.: External otitis in South Pacific. *Am. Otol. Rhin. & Laryng.*, **54**:367-372 (June) 1945.
8. Salvin, S. B.; and Lewis, M. L.: External otitis, with additional studies on genus *Pseudomonas*. *J. Bact.*, **51**:495-506 (April) 1946.
9. McBurney, R.; and Searcy, H. B.: Otomycosis; investigation of effective fungicidal agents in treatment. *Am. Otol. Rhin. & Laryng.*, **45**:998-1008 (December) 1936.
10. Sneddon, I. B.: Some dermatological complications of open wounds. *Proc. Roy. Soc. Med.*, **40**:883-884 (December) 1947.
11. Beach, E. W.; and Hamilton, L. L.: Tropical otitis externa; ear fungus. *U. S. Naval Med. Bul.*, **44**:599-602 (March) 1945.
12. Daggett, W. I.: Desquamative otitis externa in Malta. *J. Laryng. & Otol.*, **52**:427-466 (October) 1942.
13. Eggston, A. A.; and Wolff, O.: *Histopathology of the Ear, Nose and Throat*. Baltimore, The Williams and Wilkins Company, 1947, p. 198.
14. Lederer, F. L.: *Diseases of the Ear, Nose and Throat*. Philadelphia, F. A. Davis Co., 1938.
15. Fabricant, N. D.; and Perlstein, M. A.: PH of the cutaneous surface of the external auditory canal; a study of 27 infants, 44 children and 60 adults. *Arch. Otolaryng.*, **49**:201-209 (February) 1949.
16. Hayes, M. B.; and Hall, C. F.: Management of otogenic infections. *Tr. Am. Acad. Ophth. & Otol.*, **51**:149-163 (January-February) 1947.
17. Davis, E. L.: Mycotic ear infections at advanced allied base. *M. J. Australia*, **2**:437-438 (Nov. 27) 1943.
18. Sinturia, Ben H.; Matthews, John I.; and Adler, Bernard C.: External otitis; cytologic study of secretions. *Laryngoscope*, **60**:543-550 (June) 1940.
19. Hochfilzer, J. J.: Myringitis granulosa. *Laryngoscope*, **55**:509-518 (September) 1945.

20. Greaves, F. C.: Phenyl mercuric nitrate in treatment of otitis externa and of dermatophytosis. *U. S. Nav. Med. Bull.*, 34:527-532 (October) 1936.
21. Morton, H. E.; North, L. L., Jr.; and Engley, F. B., Jr.: Bacteriostatic and bactericidal actions of some mercurial compounds on hemolytic streptococci; in vivo and in vitro studies: council on pharmacy and chemistry. *J.A.M.A.* 136:37-41 (Jan. 3) 1948.
22. Gill, W. D.: Otitis externa. *Am. Otol. Rhin. & Laryng.*, 51:370-377 (June) 1942.
23. Conley, J. J.: Evaluation of fungus disease of external auditory canal. *Arch. Otolaryng.*, 47:721-745 (June) 1948.
24. Kearney, R. N., Assoc. Professor of Dermatology, University Hospitals, State University of Iowa: Personal Communication.

THE PROBLEM OF THE CHRONIC EAR

THOMAS R. UPDEGRAFF, M.D.
WATERLOO

CHRONIC suppurative otitis media has been and still is one of the difficult problems with which the otolaryngologist has to contend. Frequently patients are told that nothing can be done, except for symptomatic cleansing on occasion, and that they may expect to spend the rest of their lives with recurrent or continuous foul smelling, draining ears. Many times the family physician, as the first and only one consulted, has told these people that nothing could be done. We can not blame him, however, if he gained this impression from experience with previously referred patients who were told the same thing by the specialist to whom they were referred. It is true that before the advent of the antibiotics, the emphasis on allergy and the recent developments in endaural temporal bone surgery this disease was resistant to treatment in many cases. However, at the present time, the prognosis toward the goal of a dry ear is excellent.

The clinical picture of chronic suppurative otitis media is a familiar one. It shows an unhealed perforation with no tendency to close and varying amounts of pus with or without odor. A hearing loss accompanies this problem as well as odor and discharge. Often the latter condition is the main reason for the patient's desire for relief.

The etiology is varied. According to Kerrison practically every case has its origin in one or more attacks of acute tympanic disease. Those that begin with scarlet fever, measles and influenza are unavoidable. The rapid destruction of the tympanic membrane with these diseases is often remarkable. If repair of the resulting large perforation occurs, the patient is fortunate.

In cases where repeated attacks of acute otitis have been treated without an attempt to find and correct the underlying cause, the end result is fairly certain. Also, those in which the suppurative process was masked with chemotherapy or antibiotics, without benefit of adequate drainage with a myringotomy knife, a chronic ear, middle ear deafness, intracranial complications

or a combination of these complications might easily result.

What are the underlying causes of middle ear infections? The most frequent is the presence of nasopharyngeal lymphoid tissue which obstructs the orifice of the eustachian tube. If no other contributing cause is present, adequate removal of this tissue results in a normally functioning eustachian tube. This also facilitates treatment to the middle ear itself. In the case of a true chronic ear the patient should understand that this surgery is not a cure, but is done to remove the original cause of his trouble and prevent a recurrence once the pathology in the middle ear is corrected. If the lymphoid tissue is nonsurgical and manifests itself by granular tubal orifices, and if granulation tissue in the middle ear is not excessive, nasopharyngeal radium applications¹ may be indicated. I will not discuss the applicator or how it is used for this is common knowledge. I would like to say, however, that radium has its place in this problem if used when correctly indicated. Too often we have been guilty of giving radium treatments for cases of inner ear deafness, chronic residual otitis media where there is scarring and permanent damage of the middle ear, to nasopharyngeal masses of lymphoid tissue that would take many times the accepted dose to eradicate, to a nasopharynx (now clean) communicating to an ear, with irreversible pathologic changes. Like any of the other weapons at our command radium will aid us if correctly used.

X-ray therapy is also of value in eliminating small amounts of lymphoid tissue in the nasopharynx. I prefer it to radium in cases in which there is granulation tissue in the middle ear, inaccessible to a curette. In this way we can treat both areas at the same time because the x-ray has greater penetrating power. Radium, on the other hand, exerts most of its influence within about a 5mm. radius of the applicator.

Allergy is now recognized as one of the chief factors in the underlying cause of middle ear disease. Koch² studied 222 patients with chronic otitis media and found that approximately 20 per cent presented an eosinophilic discharge. This condition was associated with an edematous appearance of the mucosa of the ear and allergic rhinitis. A review of patients by Dintenfass³ revealed that 50 per cent of those with infections of and operations on the mastoid process had an allergy background. According to Shambaugh, most chronic diseases of the nose and sinuses are due to allergy and, of course, the ear reflects the condition of the nose and sinuses. He states that at least 70 per cent of chronic infections of the sinuses and 90 per cent of chronic nasal infections are due to an underlying allergic factor.⁴

Once a chronic ear has developed, direct treatment to the ear will not avail if there is associ-

Presented at the 102nd Session, Iowa State Medical Society, Des Moines, April 27-30, 1952.

ated pathology in the nose and sinuses. If this pathology is uncomplicated with suppuration and the changes are strictly allergic the problem is simplified. Proper history and careful allergic examination are imperative if there is doubt that sensitivity exists. The nasal smear often aids in this diagnosis, but it must be remembered that it is not all-conclusive. This is especially true if there is an infection such as a cold, which leads to a predominance of polymorphonuclear cells and, perhaps, no eosinophils. I use the smear, but if the nasal mucosa is suggestive I believe intradermal skin tests should be done. After the offending allergen or allergens have been determined they should be eliminated from the environment or diet, as the case may be. If neither can be done, adequate desensitization therapy should be carried out. The antihistamines are also of value here and should also be used to obtain the best results.

If the pathology in the nose and sinuses is complicated with suppuration and polyposis, this should also be controlled. Sometimes adequate allergic treatment is enough. In most cases, however, the hyperplastic polypoid mucosal changes in the nose and sinuses are irreversible by the time they are seen, and surgery should be resorted to for a good result. The extent of the procedure used depends upon the pathology, of course. However, there are few cases where a simple nasal polypectomy is sufficient because this often leaves a degenerative polypoid ethmoid labyrinth from which pus and new polyps will emerge in spite of adequate allergy treatment. The same applies to the other sinuses, particularly the maxillary. Conservatism is good, but at times one can be radical by being conservative. I have found that a good share of patients have already run the gamut of conservatism, and because they still have their trouble, are willing to go ahead with more extensive treatment in order to obtain relief.

The effect that a deviated obstructive septum has in contributing to chronic sinusitis and, indirectly, to the continuation of aural discharge should be remembered. If this condition is present it should be corrected.

Associated with chronic suppurative sinusitis, and contributing to it and to suppurative otitis media, is bronchiectasis. There are other chronic lung conditions that play a part, but bronchiectasis is the most common. If looked for, it will be found much more frequently than expected. Weeks spent in aural treatment, allergy control and various surgical procedures to the nose or ear will be of no avail if bronchiectasis is present and not controlled. The chest surgeon will tell you that some of his best results are with this disease. If it is suspected, bronchoscopic examination and bronchograms should be carried out and appropriate measures taken when it is found.

These important underlying factors involved

with chronic suppurative otitis media are frequently present either alone or in combination. I believe the actual treatment of the draining ear can be divided into two categories: medical and surgical.

Most draining ears should be given an adequate course of medical therapy for at least 6 to 8 weeks before surgical treatment is resorted to. In most cases it takes that long to work out and treat the underlying causes previously mentioned. During this period a large percentage become dry and surgery is not necessary, providing the pathology has not extended beyond the help of conservative measures.

The first examination of the tympanic remnants, perforation and middle ear changes often shows what the future holds. A central perforation with a minimum or no granulation tissue carries an excellent prognosis once the causative factors are removed. A marginal perforation may mean more trouble because there is probably bone necrosis associated with it. Aural polyps and granulation tissue can be removed. If, however, they extend into the aditus, the sulcus tympani or the attic through Shrapnell's membrane this may complicate removal. Accessibility to these changes is the determining factor in whether or not the ear can be dried with conservative measures.

Certain equipment is essential for working with this disease. It includes adequate small curettes, Hartmann's and Noyes' forceps and, most important of all, suction with Kos aspirating tips. The ear should be thoroughly cleaned of all debris and granulation tissue. Instilling hydrogen peroxide aids in loosening this material, but merely swabbing the solution from the ear with a cotton probe will not suffice. Inspissated pus, cholesteatomatous material and even granulations can be removed with the suction tip. The frequent epithelial deposits can be peeled away from the tympanic wall and oftentimes pulled from the aditus with the suction. Using a bent tip one can cleanse the attic, hypotympanum and tubal area through the perforation. If the patient is a child, a general anesthetic may be necessary to insure cooperation, but so essential is this procedure the anesthetic is justified. Without suction, adequate toilet of the ear is difficult, if not impossible. If not accomplished, further therapy is useless.

After the ear is clean, it must be kept clean with frequent follow ups, two or three times weekly if necessary.

Supplementing this therapy are many topical drugs which are now available. Among these are bacitracin, neomycin ear solution,⁵ aureomycin otic solution, zephirin chloride (1-1000), streptomycin-sulfamylon otic solution,^{6,7} dalyde (dibromosalicylaldehyde) one half per cent solution⁷ and glycerite of hydrogen peroxide with urea.⁹

Powders are of value. Among the most useful are penicillin, mixed sulfas and dalyde (dibromo salicylaldehyde). Some knowledge of the bacteriology of the chronic ear should be utilized in using these drugs. To routinely culture these ears in private practice is not always feasible. It involves more expense to the patient. Cultures should be taken if the ear does not respond, but most of the organisms can be assumed to be the usual gram-positive and gram-negative groups, the latter predominantly *Pseudomonas aeruginosa* or *Proteus*.⁸ Keeping this in mind, one can generally control the infection if it is accessible to topical application.

In using these solutions I have found that streptomycin-sulfamylon combination is quite effective. The solution is made up of sulfamylon 5 per cent and streptomycin 0.02 per cent. This combination gives good antibacterial action with little toxicity to the patient. Another of its advantages is its stability, i.e. one month under refrigeration. It attacks both gram-negative and gram-positive organisms. This is an excellent topical drug for aural infections, but is unsuccessful if used in the presence of debris, slough and sequestra. This is due to the fact that the drug does not reach the bacteria, either due to the physical barrier of exudate or to the inclusion of bacteria with dead leucocytes. It is advisable to instruct the patient to lie down, fill the ear canal and let it soak 15 to 20 minutes. In certain cases after thorough cleansing of the ear and canal I apply gentle pressure with a Politzer bag and force the drug into the tympanum and through the eustachian tube. In most cases I am surprised at the ease with which this can be done. The results are often gratifying.

Powders are of more value in caring for the tympanum that is responding nicely to treatment. Rather than have the patient continue to wet his almost dry ear with drops, I advise powder insufflation. Penicillin and/or sulfa powders need no discussion. Dalyde is available commercially and is especially effective against gram-negative groups.⁸

Before beginning the course of treatment outlined above the patient must be told that if it is not successful surgery must be resorted to in order to obtain a dry ear. The determining factors here are several. Some have already been outlined. Cholesteatoma, oftentimes revealed by x-ray examination, will not respond to conservative therapy unless it is accessible to the suction tip through the external canal. Bone necrosis and extension of this process, together with granulation tissue into the mastoid labyrinth does not respond to conservative therapy. These factors soon show themselves, and will influence the amount of time spent in conservatism.

The type of surgery is usually divided between two procedures: radical mastoidectomy or modified radical mastoidectomy. If possible the modi-

fied procedure is to be preferred because it leaves the tympanic membrane and ossicles, with the possible exception of the incus, which is often removed to provide easier access to the granulation tissue in the tympanum. This procedure preserves and oftentimes improves hearing. The drum acts as an excellent graft for sealing the eustachian tube.

The radical procedure is to be preferred if the hearing has been destroyed and/or if the tympanum has undergone changes that cannot be reached by elevation of the drum membrane.

Some of these ears have undergone such destruction that no drum or ossicle remains, and a radical procedure is the only choice. In the past, mastoid surgery was performed mainly because of acute mastoiditis, as an emergency measure. With the drugs now available we seldom resort to this emergency procedure. The mastoidectomies performed today are done to obtain dry ears, preserve hearing and prevent or abort serious complications intracranially. With the new techniques of anesthesia and endaural surgery, this operation and postoperative care are no longer to be dreaded. Hospitalization is short (five to six days), and the patient is ambulatory the second day. A dry ear can be obtained if all pathology is removed cleanly. The old principle of osteomyelitis applies, whereby adequate surgical removal of necrotic bone effects a cure.

Using the endaural approach¹⁰ we have more direct and easier approach to the antrum, tympanum and peri-eustachian regions. By using magnifying loops all vestiges of cholesteatoma, granulation tissue and osteomyelitis can be removed. Soft tissue trauma with this approach is at a minimum. Postoperative dressings are not painful, and the only packing of the cavity is done during the time of surgery to hold the skin graft and posterior membranous canal wall flap in place for five or six days. Care of the ear, including control of new forming granulations, is accomplished with suction and curettage. There is no ugly postoperative scar or fistula following an endaural procedure. Postoperative care is just as important as the surgery, and I always tell my patients to expect frequent office visits for about two months. After the cavity has completely epithelialized, the ear will be dry. Further care involves inspection and cleansing of the cavity about every six to nine months thereafter.

REPORT OF CASES

Case 1. R. C. This 14 year old boy had a history of recurrent right ear discharge for about 2 years, with some hearing loss. He had had no trouble with the left ear. An adenotonsillectomy had been performed several years previously.

Physical examination revealed thick purulent exudate in the right ear canal and anterior superior perforation of the tympanic membrane. Nasoscopic examination showed granular tubal or-

ifices but no surgical lymphoid tissue. The nose and throat examination revealed no contributory pathology.

X-ray examination of the mastoids demonstrated an obliteration of cell outlines on the right, especially in the posterior and upper por-

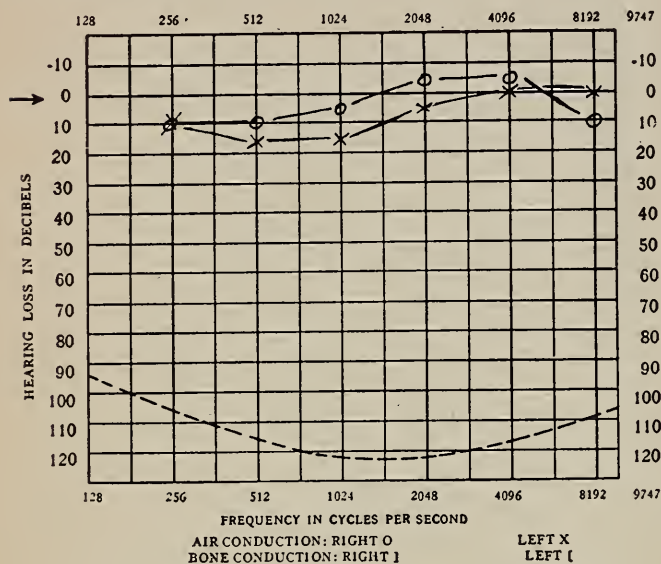


Figure 1.

tions. Audiometric examination on March 1, 1950 is shown. It revealed a 10 to 15 db loss of hearing bilateral which improved on inflation.

The ear was thoroughly cleaned with hydrogen peroxide and suction (using the Kos aspirating tip). Streptomycin, 1-5000 solution, was used twice daily for 15 minutes by the patient. He was given a course of radium therapy to the naso-

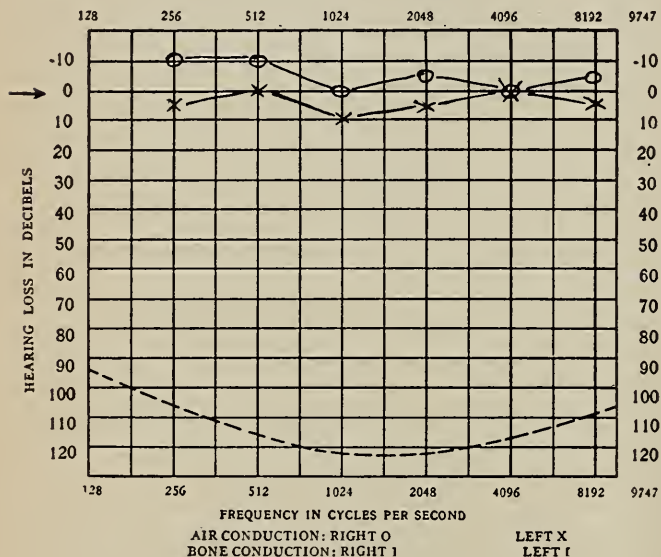


Figure 2.

pharyngeal orifices which was completed in April 1950. This patient was seen twice weekly and the ear cleaned as described. By March 25, 1950 he was much improved and was using the ear drops twice weekly. By April 22, 1950 the ear was dry and there was a noticeable improvement

of hearing. In May the hearing was rechecked by audiometer and was normal as shown. This patient was last seen in July, 1950 at which time he was doing well and his ear was dry.

Case 2. Mrs. L. B. This 24 year old woman came in complaining of a chronically draining right ear which had been bothering her for many months. Ear, nose and throat examination was essentially negative except for the right ear and nasopharynx. There was purulent exudate in the right canal coming from an attic perforation in the tympanum. There was considerable granulation tissue and cholesteatomatous material within the attic space. The nasopharyngeal tubal orifices were both quite granular. There was middle ear deafness, right, as shown by the audiogram.

The ear was thoroughly cleaned with suction and the cholesteatomatous mass and granulation

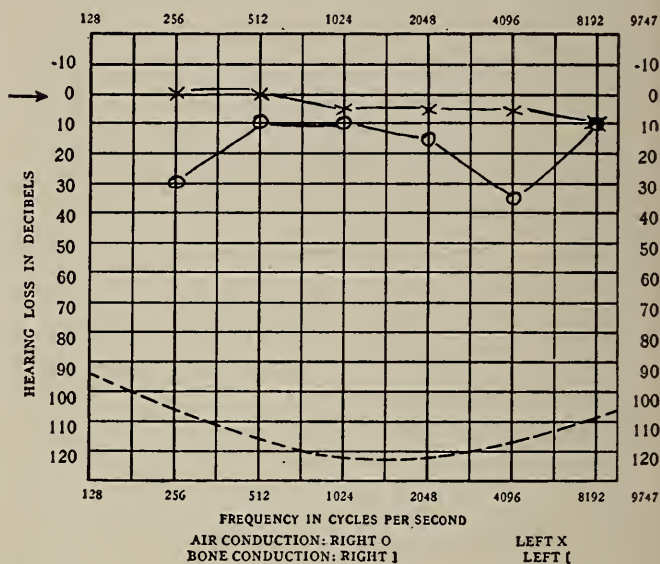


Figure 3.

tissue removed. Radium therapy was begun. Streptomycin-sulfamylon ear drops were instilled by the patient twice daily. Two weeks later she was much improved but there was still some epithelial debris present in the attic. She was given glycerite of hydrogen peroxide ear drops to be used once daily so as to loosen this debris and make it more accessible to the suction tip. One week later the ear was dry. The discharge has not recurred. Her hearing improved about 10 db.

Case 3. G. K. This 35 year old male had a history of drainage in the right ear for years. He had a middle ear deafness, right (see audiogram). Examination revealed lymphoid tissue around the right eustachian tube orifice. There was a large aural polyp, right, extruding through a posterior marginal perforation in the tympanic membrane.

An aural polypectomy was performed. The base of the polyp was thoroughly curetted. Streptomycin-sulfamylon ear solution was then forced gently through this perforation and into the nasopharynx. He was advised to use this

solution daily at home. Radium therapy was begun to the tubal orifice, right. This patient was seen and treated frequently for two months during which time the ear continued to drain. Because he had a marginal perforation, I felt that there was probably bony necrosis present and advised him to undergo surgery. However, he could not enter the hospital at that time, so I continued conservative therapy as outlined, supplementing on alternate days with glycerite of hydrogen peroxide. Two months later his ear was dry, his hearing had improved. He has had no further trouble.

Case 4. C. S. On June 13, 1950 a 13 year old girl came to the office complaining of severe left ear pain due to a furuncle in the ear canal. Examination revealed, in addition to this, a chronic suppurative otitis media, left, which had been draining off and on for years. The right ear also

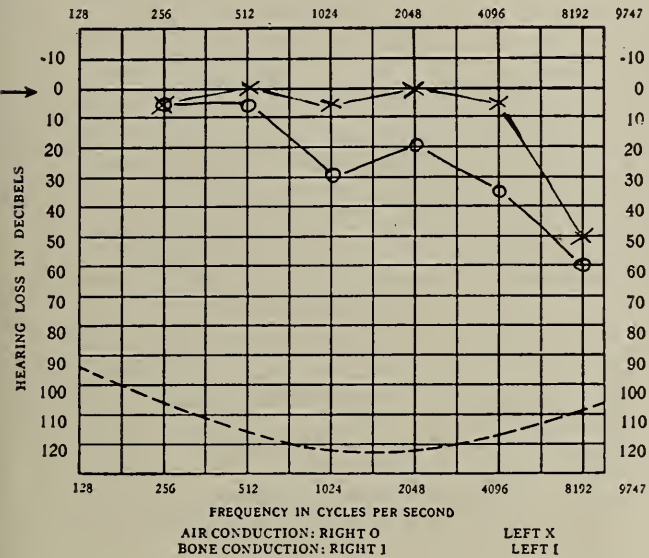


Figure 4.

showed evidence of previous trouble but was dry. She had a middle ear deafness, bilateral, as shown by the audiogram. X-ray examination revealed the sinuses were normal. She had had previous radium therapy to the nasopharynx by another physician. After treatment the furuncle subsided and a large aural polyp was found extruding through a posterior-inferior central perforation. This was removed June 20, 1950 with Hartmann's forceps and curettage. She was treated with repeated ear cleansing (Kos aspirating tips) and streptomycin-sulfamylon ear drops. Because there was granulation tissue which was not accessible to the curette or suction tip she was given a course of x-ray therapy to the left ear in August 1950. She was last seen Sept. 4, 1950 with a dry clean ear. There has been no recurrence.

Case 5. Mrs. J. P. Mrs. J. P., aged 32, entered the office Aug. 11, 1950 complaining of deafness, right ear, and recurrent discharge with odor from this ear. Because of the discharge this woman also was subjected to repeated attacks of acute

external otitis and furunculosis. Examination revealed a thin foul smelling purulent discharge in the right ear canal. There was a posterior marginal perforation with some granulation tissue extending to the aditus. Audiogram (shown) revealed a marked middle ear deafness, right.

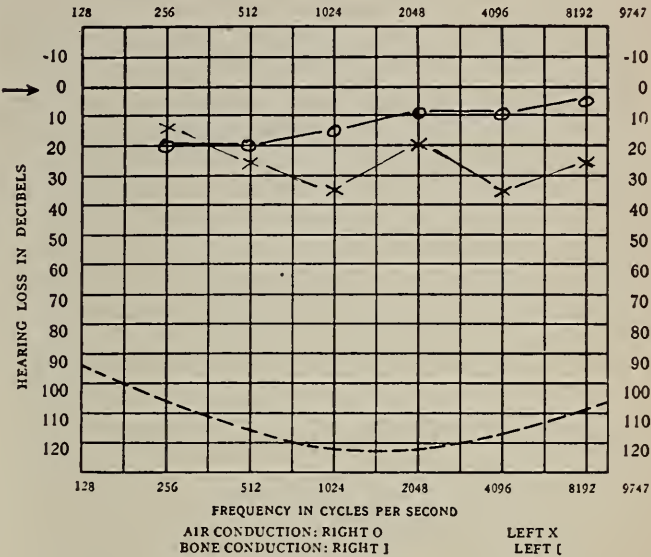


Figure 5.

Sinuses were normal. Mastoid x-rays revealed a destructive process in the right mastoid area, with obliteration of most cell outlines and sclerosis in the central portion. This patient had been treated for active tuberculosis several years past but repeated chest x-rays at this time were negative for active disease.

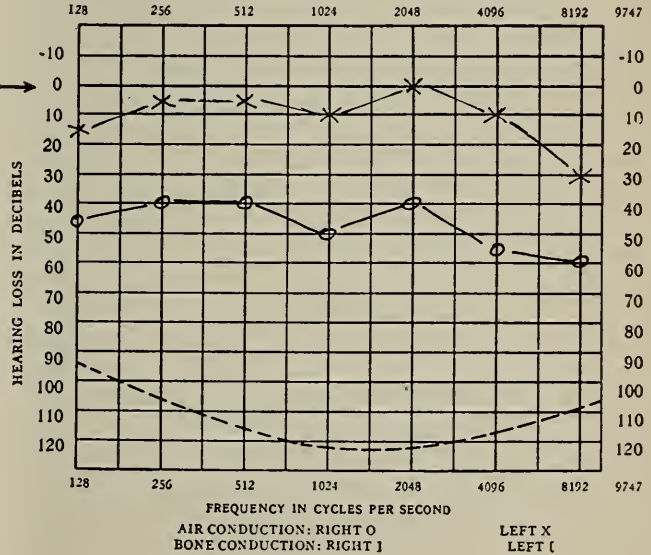


Figure 6.

This woman was treated with the repeated ear cleansing procedure already described. Streptomycin-sulfamylon drops were used unsuccessfully. Zephryn chloride (1-1000) was also used unsuccessfully. X-ray therapy was given to the right ear with no change in its status. She postponed surgical procedure until September 1951,

when further repeated attacks of acute external otitis forced her to take action. On Sept. 21, 1951 an endaural modified radical mastoidectomy, right, was performed. The antrum was filled with granulation tissue as were the cells in the facial ridge. The mastoid cells extending out from the

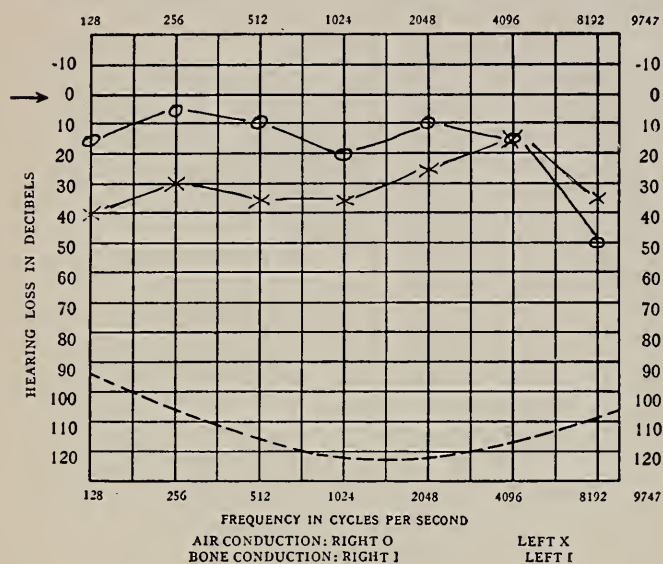


Figure 7.

antrum were necrotic. The cells were all removed and the facial ridge taken down well. The sinus tympani was cleaned with a chalazion curette and its lip was taken down with a burr and curettes. The cavity was grafted. December 1951 the cavity was well epithelialized and dry. She was last seen in January 1952 and was doing very well.

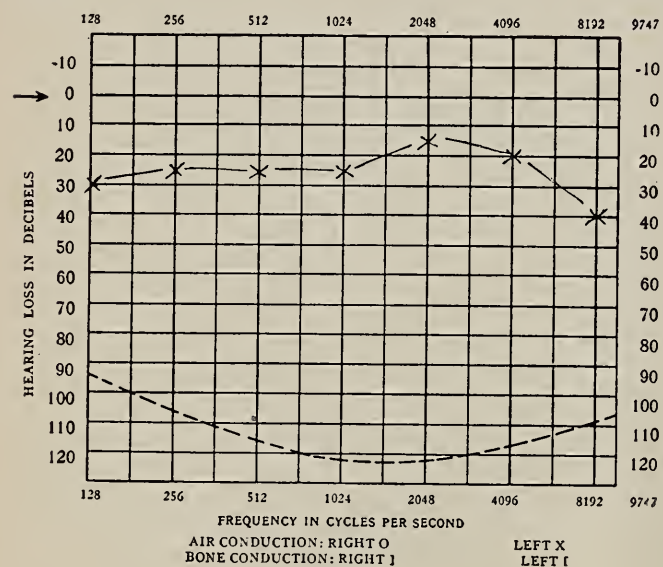


Figure 8.

Case 6. I. P. I. P., aged 52, was first seen March 19, 1950. He complained of a seven months drainage in his left ear. Examination of the ears revealed chronic suppurative otitis media, left, with a Shrapnell's perforation, and chronic residual otitis media, right. Audiometric examination revealed a middle ear deafness, predominately left (see audiogram). The eustachian tube orifices were

granular. Mastoid x-rays showed sclerosis bilateral with some obliteration of cell outlines on the left. He was treated as described above, with Kos aspirating tips and streptomycin ear drops. He was also given a course of x-ray therapy to the right ear. In May 1950 the ear was still draining and surgery was advised but postponed because of his business activities. In August 1950 a modified radical mastoidectomy, left, was performed and the mastoid thoroughly cleaned of all necrotic bone and granulation tissue. The middle ear was in good condition except for the attic which was opened with the small burr and curettes. All debris and granulations were removed. The cavity was skin grafted with a split thickness graft obtained from the hip. By October 1950 the ear was completely epithelialized and dry.

SUMMARY

1. The chronic drainage odiferous ear is a social handicap to the patient, destroys his hearing, and is a source of potential danger to his well-being.

2. Conservative therapy will, in the majority of cases, result in a dry ear. This includes meticulous repeated toilet of the tympanic cavity using suction, forceps and curettage followed by topical application of suitable drugs discussed.

3. Therapy to the ear itself is useless unless combined with adequate treatment and control of underlying and contributing factors such as suppurative sinus disease, nasal septal deformities, allergy and polyposis, nasopharyngeal lymphoid tissue and the like.

4. If the pathology is inaccessible to treatment through the external canal, the procedure of choice is adequate, complete exenteration of the mastoid osteomyelitic process and tympanic disease.

5. The endaural technic gives the best exposure with the least deformity and with minimum post-operative discomfort and lost time for the patient.

6. Six cases presented.

BIBLIOGRAPHY

1. Dow, C.: Use of radium in treatment of hypertrophic lymphoid tissue in the nasopharynx. *Arch. Otolaryng.*, **59**: 417-428 (October) 1949.
2. Koch, H.: Allergic investigations of chronic otitis. *Acta oto-laryng. Supp.* **62**:1-201, 1947, abstracted *Arch. Otolaryng.* **47**:533-534 (April) 1948.
3. Dintenfuss, A.: Allergic manifestations in otology; *Eye, Ear, Nose & Throat Month.*, **30**:647-653 (December) 1951.
4. Slepian, S.: Management of nasal allergy. *Arch. Otolaryng.*, **52**:597-607 (October) 1950.
5. Lazar, A. M.; and Fishman, J.: Neomycin in treatment of otitis media in infants. *Eye, Ear, Nose & Throat Month.*, **29**:484-487 (September) 1950.
6. Lundon, A. E.: Streptomycin by topical application in treatment of chronic suppurative otitis media. *Arch. Otolaryng.* **48**:418-429 (October) 1948.
7. Diehl, K. L.; and Morris, A. G.: Sulfamylon and streptomycin in treatment of infections of the ear, preliminary report. *Arch. Otolaryng.*, **50**:700-707 (December) 1949.
8. Hayes, M. B.; and Hall, C. F.: Newer concept of the management of otogenic infection. *Arch. Otolaryng.*, **47**:289-302 (March) 1948.
9. Brown, E. A.; Krabek, W.; and Skiffinton, R.: Glycerite of hydrogen peroxide with urea; comparison by in vitro methods of its bacteriotoxic action with that of three proprietary aural preparations. *Arch. Otolaryng.*, **48**, 327-331 (September) 1948.
10. House, H. P.: Surgery of the chronically discharging ear. *Arch. Otolaryng.*, **49**:135-150 (February) 1949.

The JOURNAL of the
Iowa State Medical Society
ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager...Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MISS JOYCE MEYER, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.....Van Meter
DANIEL A. GLOMSET, M.D.....Des Moines
TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton
WENDELL L. DOWNING, M.D., Trustee.....Le Mars
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
529-36th Street, Des Moines 12

Vol. XLII SEPTEMBER, 1952 No. 9

A DREAM REALIZED

As this issue of our *Journal* comes to you, it carries a new address for the home of the State Society. A vision seen several years ago by our board of trustees has finally come to fruition. Possibly Dr. Walter A. Sternberg of Mt. Pleasant, chairman of the board for several terms, is responsible for first thinking that the State Society should have well-equipped and attractive headquarters. With his insistence upon good equipment and larger quarters, he led the way to the concept of our own individual office. Dr. Whitaker and Dr. Larimer, succeeding chairmen, retained the idea and under Dr. Larimer the State Society purchased the site and signed the contract for erection of our building.

The structure is not an elaborate one but it is well designed to meet our needs. Small private rooms are provided for the executives and a central working area for the secretarial aides. Colors used in decorating are light and restful; glass has been utilized in partitions throughout to give greater illumination. The result is an office which should make for more efficiency and ease in working conditions.

The conference room on the first floor is a great improvement over previous meeting rooms, being large enough to accommodate most of our committees. The work room, hub of communications between office and members, is also spacious and well lighted, a great change from the cramped quarters in which the staff has worked for many years.

Plans have not yet been made for a formal opening of the building but it is expected that that joyous occasion will be marked by special festivi-

ties. It seems most timely that as we get off to a good start on our second hundred years, we do so in our own headquarters. We know that attainment of the building carries great significance to the officers and staff, and it is our feeling that it will provide a spur to greater achievements by the medical profession in Iowa.

THE PRECEPTOR PROGRAM FOR NEXT YEAR

The following statement from Dr. Willis M. Fowler, Chairman of the Executive Committee of the College of Medicine, explains why the proposed preceptor program did not get into full operation this summer and also expresses the intent to have it functioning next year. The State Medical Society will cooperate fully with the plan through its committee on general practice, and we feel confident the University will have the support of practicing physicians.

Dr. Fowler's statement follows:

"The College of Medicine was extremely gratified by, and appreciative of, the response by the physicians of the state to the request for preceptors for medical students. Due to unforeseen circumstances in this first year of the preceptorial training program, rather drastic modification of the original plan became necessary. Consequently most of those who volunteered to serve as preceptors were not directly contacted by the College of Medicine. It was necessary for the students to make plans for the summer period before the list of possible preceptors was available to us, leaving the students to make their own arrangements with individual doctors or hospitals for this year. Because of this, we did not make full use of those volunteering to serve as preceptors. All students in last year's junior class have arranged for some type of preceptor or externe training for this summer.

"It is hoped that next year the plan can be carried out as originally planned so that all students will be assigned to work with a general practitioner. In order to make this plan effective, it will be necessary to prepare the list of preceptors early in the fall. Consequently a request for preceptors for next summer will soon be made.

"The response last year gave assurance that the plan had the backing of the physicians in the state and that an adequate number of preceptors would be available for the program. We hope that the profession in the state will continue to work with us in this training program so that it may be carried out in its entirety next year."

THE HIGH COST OF HOSPITALIZED
MEDICAL CARE

All physicians are disturbed by the increasing costs of illness. As lay persons discuss this situation, there is an obvious tendency to designate these costs as "doctor bills," and the entire onus of these costs is attributed, willy-nilly, to the

physician. The doctor is all too often inarticulate and the patient all too ready to believe that "somebody" has extracted an unreasonable profit from his individual illness.

In these troubled days of fifty-cent dollars, it is simple to explain a certain proportion of this increased cost; but what of this question: "Doctor, why does the hospital charge me \$2.50 for a fifty-cent shot of penicillin?" The answer is as follows:

(1) The hospital is operated by a board of trustees, locally respectable and successful men, *who serve without pay*.

(2) The trustees govern the activities of the hospital and its staff through an administrator, who carries out the wishes of the trustees and who receives a salary—not a commission or other indirect profit.

(3) A hospital is departmentalized. A large Iowa hospital has seventeen individual departments, all of which spend money. Of these seventeen departments, only six have any income. It is simple arithmetic to deduce that these six paying departments must carry the financial burden of eleven nonpaying departments.

(4) The hospital pharmacy is one of the profit-making departments. It must help carry the burden of the laundry, housekeeping, medical records, employees health service, etc. Hence, the *apparent profit* of \$2.00 is realized on the penicillin injection to cover these items.

(5) The apparent profit is far from real. It takes a total of twenty employee-minutes to prepare and administer an injection of penicillin. It requires equipment subject to breakage, loss, and deterioration. Possibly the hospital, not the pharmacy, may realize a profit of \$1.00 on this transaction.

(6) By the end of the month, when the other unprofitable hospital departments have used up this dollar, the administrator and trustees find the hospital is still operating at a loss.

(7) Very few hospitals "make a profit," and the usual loss is made up by charitable donations and bequests of public spirited citizens or businesses.

(8) Thus, the patient who felt that his hospital bill, stamped "Paid in Full," entitled him to complain about the \$2.50 drug charge, was still the recipient of public charity. The hospital made no "profit" on him or his illness.

With the profit taken out of the patient's hospital stay, why then are the costs so great? A breakdown of the costs of the State of Wisconsin General Hospital has been reported by Dr. Erwin Schmidt. In 1935 the *per diem* cost (cost per bed per day) was \$4.55. In 1951, the *per diem* cost was \$15.22, an increase of 234 per cent. During this time, nursing service salaries increased by 434 per cent and other wages and salaries increased by 436 per cent. Thus, out of the \$10.67 *per diem* increase between 1935 and 1951, more than \$6.00 is directly attributable to increased wages and

salaries. And yet the trained and accredited hospital nurses are not receiving more than plumbers' helpers. Perhaps the day will gradually dawn when:

(1) Hospitals will bill the patients by cost accounting.

(2) Highly trained nurses will not wander away into ancillary fields.

(3) *Routine* nursing duties will be carried out by competent but less highly trained personnel.

The doctor owes it to his patient, as well as to himself, to seek an answer to these problems. Group decision can only follow individual thought.

THE BALLISTOCARDIOGRAM IN CARDIAC DIAGNOSIS

The early diagnosis of coronary heart disease has been a rather difficult problem in many cases. Recently Brown* indicated the value of the ballistocardiogram in cardiac diagnosis as it is understood today.

In comparison with the electrocardiogram, which measures electrical waves of cardiac origin, the ballistocardiogram measures the effect of the mechanical pumping of the heart. The heart's "recoil waves," when picked up and recorded, produce the ballistocardiogram tracing. The peaks and nadirs of the traces, or waves, have been arbitrarily named G, H, I, J and K. G to H is a headward stroke, occurring simultaneously with the first heart sound. It represents the beginning of ventricular systole. J to K is a footward wave whose nadir occurs simultaneously with the closing of the aortic and pulmonary valves, or the second heart sound. The time interval from G to K represents ventricular systole. The normal heart contracts and ejects blood with a characteristic "snap" which is reflected in the amplitude and form of H, I, J, K strokes. The waves following L, M, N, O, etc., are diastolic waves of which little is yet known. Various conditions, both cardiac and extra-cardiac, may alter this normal pattern. Research in ballistocardiography is concerned greatly with pattern norms and normal variations, as well as with determining abnormal tracings and their clinical significance.

The following conditions apply to taking a ballistocardiogram, which is neither a difficult nor time-consuming work: Ballistocardiograms should be taken on a fasting stomach since eating tends to increase cardiac output. Caccese and Schrages have demonstrated that cigarettes occasionally produce marked transient changes in the BCG which last up to 20 minutes. Abstention from smoking for at least half an hour is recommended; failure to observe this precaution may lead to serious diagnostic error. A rested condition is preferred in a patient as exercise may produce abnormalities

* Brown, F. J.: Clinical Ballistocardiography in Office Practice. J. M. Soc., New Jersey, 49:251-255 (June) 1952.

President's Page

THE BOARD OF MEDICAL EXAMINERS

During the past year there has been considerable controversy involving the Board of Medical Examiners and some displaced physicians desiring license to practice in Iowa. This issue has become so involved that the press has given it a great deal of publicity.

Your officers have taken the position that this does not involve the State Society as an organization. The Board is set up under the Code of Iowa, and its duties are outlined. It would be a dangerous thing if the Iowa State Medical Society, or any other organization, should attempt to influence the Board. However, if the law has become outdated, then it is proper for us to recommend changes which will assist the Board to operate more efficiently.

The House of Delegates instructed the President to appoint a committee to study the present laws, compare them with other states and, working with the Legislative Committee, make any suggestions indicated to the coming legislature.

The following is the committee:

Gerald V. Caughlan, M.D., Council Bluffs, Chairman

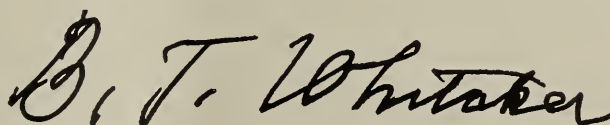
Willis M. Fowler, M.D., Iowa City

Lee F. Hill, M.D., Des Moines

Frank R. Peterson, M.D., Cedar Rapids

Clyde F. Watts, M.D., Marengo

I appreciate the willingness of these men to take on this important and rather arduous task.

A handwritten signature in dark ink, reading "B. J. Whitaker". The signature is written in a cursive, flowing style with a large initial "B".

President

General Manager's Page

The long awaited "HOME OFFICE" of the State Medical Society is now a reality. It is an inspiration for the members of your office force and an achievement of which we are all proud.

It is also worthy of note that many of our most important committees will meet early this month to add the finishing touches to their program of activities for the coming year. Without doubt, this will be the most active year the Society has had in years.

The following committees have prepared programs for county meetings: Industrial Health, Rural Health, Mental Health, Maternal and Child Health, Public Information, Hospital and Professional Relations, Geriatrics, and Health Education. Requests for these programs should be sent to this office, 529 36th Street, at an early date.

This is your opportunity to know what your Society is doing.

R. D. Bernard, M.D.

General Manager

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

LINES FROM THE PRESIDENT

After the summer vacation you will find the various committees diligently at work preparing program material and suggestions for your use during the coming year. Take advantage of these. National Headquarters will gladly furnish us with material when requested.

Many Auxiliaries are small, but don't become discouraged; choose one or more interests and carry them on the best you can.

It has been suggested that county secretaries send a copy of minutes of each meeting to their District Counselor. I am sure this information will be a great help.

Assume an active role in the various projects of our organization. Life does not make advances without a struggle.

It is my hope that county auxiliaries will show many fine reports at the close of the year.

MRS. LONNIE A. COFFIN, *President*

BLACKHAWK AUXILIARY

Forty five members of the Black Hawk County Auxiliary enjoyed an eleven o'clock breakfast in the garden of Mrs. Cecil W. Seibert, Waterloo. Hostesses were Mesdames Arthur E. Perley, John L. Kestel, Clarence J. Mikelson, James F. Gerken, Russell S. Gerard, Craig D. Ellyson and Roger L. O'Toole. Mrs. Don Seigel, Chairman of the Medical Center of Hadassah, explained their work in helping to build the new Medical Center in Jerusalem. It will be a 450 bed hospital and training center, the only one of its kind in the area.

MRS. JOHN BICKLEY

SCHOOL HEALTH PROGRAMS

As chairman of the Committee on Child Health and Maternal Welfare of the Iowa State Medical Society, I attended the Third National Conference on Physicians and Schools last fall in Highland Park, Ill., November 6 through 8. I represented the Iowa State Medical Society.

During and since the conference I have formed certain impressions of the operation of our school health programs, and have several major changes to suggest.

I. Present Status of School Health Program in Iowa.

1. The State Department of Education outlines the program in cooperation with the State Department of Health. Doctors, dentists, etc. are called in to do the work outlined by these agencies.
2. Pre-school examinations are mostly done in school rooms in an "assembly-line" method.
 - a. Lack of interest by the physicians and dentists:
 1. Patient does not choose the doctor.
 2. The doctor is unpaid.
 - b. The child is not satisfactorily examined.
 - c. Not satisfying to the child or parent.
 - d. There is a lack of essential follow-up and referrals.
 - e. There is no medical history of the child furnished at the time of examination.
 - f. There is unsatisfactory examination of those participating in athletics.
 - g. Immunization programs tend to be done in the same "assembly-line" manner.
 - h. Screening tests by teachers and school nurses are being set up by the Department of Education, not by the medical profession.
- II. Proposed Changes.
 1. Iowa State Medical Society should take a positive position in relation to school health in conjunction with the State Dental Society, the State Department of Education and the State Department of Health. These four agencies should work together toward better methods of regulating School Health Programs.
 2. The child and parent should choose the physician they desire.
 3. The examination should be made in the physician's office with his full equipment and in privacy.
 4. Complete medical history of the child should be furnished by the parent to the doctor at the time of examination.
 5. There could then be made direct referrals to specialists for correction of defects.
 6. The follow-up would be the direct responsibility of the physician and parent.
 7. Cost of the examination should be paid directly to the physician by the parent.
 8. Care of those financially unable to do so to

be determined by the individuals or communities.

9. There should be thorough examination of participants in athletics.
10. Immunizations should be arranged for or completed at time of pre-school examination, and the control of communicable diseases should be a part of the physician's planning.
11. Teachers should receive a thorough examination, as well as employees (cooks in kitchens, etc.).
12. Physical conditions of school buildings, grounds, etc., should be considered.

These suggestions should be presented to the heads of the State Departments, threshed out by the combined committees of the four agencies and, if adopted, promoted down the line to their respective units by each department and organization down to at least the county level.

C. P. PHILLIPS, M.D., *Chairman of the Committee on Maternal and Child Health.*

A SURVEY OF COUNTY HEALTH RESOURCES

Almost all counties in the State have many groups directly interested and dedicated to some aspect of community health, and many times more groups and organizations are less directly interested with, perhaps, a community health committee in their organization. Many of these organizations are well established but little publicized, so that the general public does not know of their existence, their activities or how to contact them in time of need. For example, we all buy Christmas seals, but I wonder how many of you know how to get benefits from the Iowa Tuberculosis Society, should the need arise. More recent on the calendar was the Easter Seal appeal sponsored by a 25 year old Iowa Society for Crippled Children and Adults. What does it do? Do you know how to contact its local representative? True, these are state organizations, but they have voluntary local or county representatives in your community. Emphasis of the county, local, so-called "grass roots" level of these organizations has often been neglected in the past. It is in your home town that benefits must be used by you and your neighbors, and time we begin using what we already have without adding more.

Public Health probably had its beginning in the days of dangerous epidemics, when some method of quarantine or segregation was found to help check the disease. That was a negative approach; to-day we emphasize the positive approach. This includes immunization programs, proper waste disposal, pure water, pasteurized milk, etc. All of these have given rise to a multitude of different organizations and people directly interested in the health of a community. First of all is your overworked and underpaid husband, the doctor. His first interest is, of course, the individual patient. There are few people in the community as

well trained to observe the weak spots in the defenses of the county's health as the doctor in the course of his daily rounds and activities. We physicians, I must admit, are at times so engrossed by the trees that we fail to see the forest.

You of the Auxiliary of the Iowa State Medical Society are in a position to have a better picture of the forest, not being so intensely interested by specific cases as we physicians.

What are the resources of most of our state's counties? A few have been mentioned; in addition there are:

- The County Medical Society
- The County Dental Society
- The County Health Nurse
- The County Board of Health or Health Officer
- Hospitals and Nursing Homes
- Veterinary Association or Society
- County Welfare Office
- The County chapter of the Iowa Division of the American Cancer Society
- American Red Cross
- American Heart Association
- American Tuberculosis Society
- Society for Crippled Children and Adults
- Salvation Army
- Blue Cross and Blue Shield

These may not have local organizations in all counties, but in some counties you will find such a list is only a beginning of those organizations directly dedicated to health in the community. In addition there are those in which community health is a side issue, but none-the-less offer potent and desirable additions to the county health resources. A partial list, applicable to most communities, includes:

- The Farm Bureau
- The Grange
- P.T.A. of the various schools
- Women's Clubs
- Kiwanis, Lions, Rotary Clubs
- Chambers of Commerce in larger cities
- Girl Scouts and Boy Scouts
- 4-H Clubs
- Church groups
- American Legion
- Veterans of Foreign Wars

Listed in such a manner they become a rather bewildering array of names. For the most part they are names with which you are more or less familiar, but which you would often hesitate to contact or use in a specific case. There is obviously a certain amount of overlapping of purpose, aim and activity in any community where there is even a partial list of such organizations. The question of what can be done to better coordinate them naturally arises.

The answer often given is to establish a Health
(Continued on page 474)

HISTORY OF MEDICINE IN IOWA

Walter L. Looming

WILLIAM MURDOCH, M.D.

Medical Attendance Cards
Transylvania University Medical Department,
Lexington, Ky., 1826-27,
and
Medical College of Ohio, Cincinnati, 1830-31

It will be of historic interest to note that the following cards of registration and lectures were issued to William Murdoch, M.D., maternal grandfather of the late Dr. Murdoch Bannister of Ottumwa.

TRANSYLVANIA UNIVERSITY.

A
Course of Lectures
ON THE
THEORY & PRACTICE
OF
MEDICINE.

BY
Daniel Drake M.D.

NOVEMBER, 1826.

Transylvania University Medical Department,
Winter Session 1826-27
for Mr. William Murdoch

| | Fee |
|---|---------|
| Matriculation and library ticket. Hosmer Graham, Secretary | \$ 5.00 |
| Lectures, Institutes of Medicine and Clinical Practice. Chas. Caldwell, M.D. | 15.00 |
| Course in Chemistry. James Blythe, D.D., professor | 15.00 |
| Lectures on Materia Medica & Medical Botany, Chas. W. Short, M.D. | 15.00 |
| Lectures on Anatomy & Surgery. B. W. Dudley, M.D., public | 20.00 |
| Lectures on Obstetrics & Diseases of Women and Children. W. H. Richardson, M.D. (private) | 15.00 |
| Lectures on Theory & Practice of Medicine, Daniel Drake, M.D. | 15.00 |

Special attention is directed to the card signed by Daniel Drake, M.D., November 1826. He was one of the most unique figures in the history of American medicine. He was the author of that medical classic published in 1850 entitled "A Sys-

Cards obtained through the courtesy of Mr. Robert J. Bannister, Attorney, Des Moines, brother of the late Dr. Murdoch Bannister.

MEDICAL COLLEGE OF OHIO.

Lectures

OF
Obstetrics & Diseases of Women and Children

By
J. WHITMAN M.D.

Admit *Doct. William Murdoch*
Nov 4 1830 *Josiah Whitman*

Medical College of Ohio, Cincinnati, Session 1830-31
for Dr. William Murdoch

| | Fee |
|--|---------|
| Matriculation for present session, Nov. 1, 1830, Elijah Slack | \$15.00 |
| Lectures Obstetrics & Diseases of Women and Children. Josiah Whitman, M.D. | 10.00 |
| Lectures Theory & Practice of Medicine, John Moorhead, M.D. | 10.00 |
| Lectures on Surgery. John Smith, M.D. | 10.00 |
| Lectures on Chemistry and Pharmacy. Elijah Slack, M.D. | 10.00 |
| Lectures on Anatomy & Physiology. J. Cobb, M.D. | 12.00 |
| Lectures on Materia Medica. Chas. E. Pierson, M.D. | 10.00 |

tematic Treatise, Historical, Etiological and Practical, on the Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian and Esquimaux Varieties of the Population." He received his M.D. degree from the University of Pennsylvania in 1816, and held various professorships in Transylvania University, Lexington, Ky., Jefferson Medical College, Louisville Medical Institute and the Medical College of Ohio, until his death in 1852.*

Dr. William Murdoch received his M.D. degree at Transylvania University Medical Department, and after completion of graduate studies at the Medical College of Ohio in 1831, he practiced medicine at Springfield, Ohio, until 1890 when he retired to live with his daughter, Mrs. Bannister, Ottumwa, until his death in 1893.

* The one hundredth anniversary of Dr. Drake's death was recently commemorated at the University of Cincinnati, College of Medicine, the successor of Medical College of Ohio.

ALBERT C. RICHMOND, M.D.
1854-1929

A biography and account of the first effective use of moldy bread (penicillin) in fevers.

Dr. Albert C. Richmond was born in Keosauqua June 13, 1854. His father was a captain of Company A, 19th Iowa Infantry, in the Civil War. At the close of the war the family moved to Scotland County, Mo., where young Albert attended country school and high school at nearby Memphis, followed by attendance at Kirksville State Teachers College and the University of Missouri.

After graduation from the Keokuk Medical College in 1898 he began the practice of medicine in Fort Madison. Early in his practice it was noted that Dr. Richmond was collecting stale bread from Iowa bakeries. He used moldy bread, milk and poultices for skin infections, with good effect. Dr. Richmond prepared a capsule of moldy bread and a white powder which he prescribed for fevers, with good results.

The following is taken from one of Dr. Richmond's early notebooks:

"Aug. 3, 1900. I was called to see Mrs. R. today. Her daughter was quite alarmed because she had given her some bread and milk, and later discovered the bread was moldy. Mrs. R. has been quite ill with typhoid fever, or enteritis."

Aug. 4, 1900. Mrs. R. is much better today. I wonder why? Perhaps the moldy bread was good for her. I shall try more of it on her."

Aug. 5, 1900. The more moldy bread I give Mrs. R., the better she gets. There must be something in the mold that prevents or kills germs."

Sept. 9, 1900. Robert S., age 18, acute tonsillitis, temperature 104, a very septic sore throat. I tried to give moldy bread, but parents refused to give it."

Sept. 10, 1900. Robert is still very ill; giving moldy bread with aspirin in capsules—three capsules four times daily."

Sept. 11, 1900. Robert's improvement is unbelievable, more rapid than typhoid, or enteritis. I shall give all patients with fever and infections mold. If I should tell the other doctors about this, they would think I am crazy."

There is further record of many similar reports. About the time of World War I Dr. Richmond moved to Texas County, Mo., where he practiced until a few years before his death, May 29, 1929. His son, Dr. Frank R. Richmond, completed pre-medical studies at Iowa State College, Ames, and graduated from the University of Illinois College of Medicine in 1922. Some of the older physicians who had practiced with Dr. Frank Richmond's father in Fort Dodge often remarked about young Dr. Richmond's successful treatment of fevers and infections, the medicine still being given in the form of capsules containing aspirin and mold.

This account definitely suggests the effective use

of penicillin (moldy bread) in fevers and infections by an Iowa practitioner fifty years ago.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a.m.

GUARDIANS OF YOUR HEALTH

September 4.....A Health Department for Every Community

September 11.....Accidents—A Leading Cause of Death

September 18.....Sanitation, an Unfinished Job

September 25.....Health in Our Schools

WSUI—Tuesdays at 11:45 a.m.

BEFORE THE DOCTOR COMES

September 2.....Rash

September 9.....Drugs in the Home

September 16.....Headache a Signal

September 23.....The Child with a Tummy-Ache

TELEVISION SCHEDULE

WOI TV at 8:30 p.m.

September 10.....The Country Doctor

September 24.....To Be Announced

**Your Society has moved
to its new home at
529 Thirty-Sixth Street
Des Moines 12, Iowa**



**And we have a new telephone
number too: 5-2105**

BLUE CROSS



BLUE SHIELD

| | | | | | |
|--|------|-----------------------------------|-----------|---|----------------------|
| SUBSCRIBER | | | | IF ENROLLED ← IN BLUE SHIELD TOO! | |
| MO. YR. | | BLUE SHIELD EFF. DATE | | | |
| ROOM ALLOWANCE | TYPE | CERTIFICATE NO. | GROUP NO. | MO. DAY YR. | BLUE CROSS EFF. DATE |
| BLUE CROSS "Hospital Service" | | BLUE SHIELD "Doctor's Service" | | | |
| LIBERTY BUILDING DES MOINES 7, IOWA INTER-PLAN BANK NO. 140 | | | | | |
| IDENTIFICATION CARD | | | | | |
| Show this card to the hospital admitting officer and your doctor. WHILE IN GOOD STANDING THE SUBSCRIBER NAMED ABOVE AND ELIGIBLE FAMILY MEMBERS, IF ANY, ARE ENTITLED TO THE BENEFITS SET FORTH IN SUBSCRIBER'S CERTIFICATE. | | | | | |
| Signature of Subscriber | | | | | |
| Cut along dotted line | | | | | |
| PLEASE DESTROY ALL PREVIOUS IDENTIFICATION CARDS USE ABOVE NUMBERS WHEN WRITING TO BLUE CROSS-BLUE SHIELD REPORT CHANGES IN YOUR ADDRESS IN WRITING PROMPTLY | | | | | |
| (OVER) | | | | | |

Cut along this line

IMPORTANT
SHOULD YOU LEAVE YOUR PRESENT GROUP YOU
MAY CONTINUE YOUR MEMBERSHIP IN THE BLUE
CROSS-BLUE SHIELD PLANS IN ACCORDANCE
WITH THE PROVISIONS OF YOUR CERTIFICATES.
Children over the age limit set out in your contract
must be covered by a separate contract to be eligible
for benefits. Notify the Blue Cross-Blue Shield Office
within 30 days and forms for enrollment will be fur-
nished.

Cut along dotted line

(OVER)

NOW YOU CAN ENJOY THE PRICELESS PROTECTION BLUE
CROSS-BLUE SHIELD GIVES YOU FROM THE HIGH COSTS OF
SICKNESS. IN ALL THE WORLD, NO OTHER PLAN GIVES
YOU SO MUCH SECURITY FOR SO LITTLE. TRULY, THERE'S
NOTHING LIKE BLUE CROSS-BLUE SHIELD.
KEEP IT KEEP IT UP KEEP IT ALWAYS

THIS IS YOUR MEMBERSHIP CARD
CARRY IT WHEREVER YOU GO!
IT IDENTIFIES YOU AS A MEMBER OF
BLUE CROSS-BLUE SHIELD

The last two numbers of the "contract code" shown on the other side indicate
the members and the type of coverage as follows:

| Last code number | MEMBERS COVERED |
|---|---|
| 0 or 1 | INDIVIDUAL CONTRACT COVERS ONLY YOU |
| 2 | TWO PERSON CONTRACT COVERS YOU AND YOUR SPOUSE OR ONE ELIGIBLE DEPENDENT |
| 3 | FAMILY CONTRACT COVERS YOU AND YOUR SPOUSE AND ALL ELIGIBLE UNMARRIED CHILDREN |
| Next to last code number | TYPE OF COVERAGE |
| 1-2 or 3 | BLUE CROSS HOSPITALIZATION |
| 4-5 or 6 | BLUE CROSS HOSPITALIZATION AND BLUE SHIELD SURGICAL |
| 7-8 or 9 | BLUE CROSS HOSPITALIZATION AND BLUE SHIELD SURGICAL AND MEDICAL |
| ROOM ALLOWANCE | |
| SP | PATIENT ELIGIBLE FOR SEMI-PRIVATE ACCOMMODATIONS |
| 5-6-7-8-9 | PATIENT ELIGIBLE FOR DOLLAR CREDIT INDICATED ON ROOM |
| CHANGE IN MARITAL STATUS MUST BE REPORTED WITHIN 30 DAYS OF OCCURRENCE | |

This is the new Blue Cross-Blue Shield subscriber's Identification card you'll be seeing very soon. It is being issued to all new subscribers, and to all old subscribers who have a change in their contract, or who need a new identification card for any other reason.

This new card immediately identifies members as subscribers to Blue Cross alone, or as subscribers to both Blue Cross and Blue Shield. Therefore you will have no difficulty in determining which coverage the subscriber has when he presents his card.

If the member has Blue Cross only, it will show as a date in the box labeled "Blue Cross Eff. Date." If the member also has Blue Shield, it will be shown by a date in the box labeled "Blue Shield Eff. Date." This box is further identified with an arrow, and the words "If enrolled in Blue Shield too!"

This new card also has a code which shows which members of the subscriber's family are covered, and the type of coverage to which they are entitled. In addition, the type of room and the

(Continued on page 470)

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chestnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

FIRST POST-GRADUATE COURSE 1952-1953 SERIES

Hotel Savery, Des Moines, Iowa
Thursday, September 18, 1952

PROGRAM

- 8:00 A.M. Registration.
9:00 A.M. "Office Diagnosis of Tumors of the Breast," by Charles L. Eckert, M.D., Ass't. Professor of Surgery, Washington University, St. Louis, Mo.
10:30 A.M. "Immediate Care of Head Injuries," by Russell Meyers, M.D., Professor of Surgery, Chairman, Division of Neurosurgery, University of Iowa, Iowa City.
12:15 P.M. Luncheon.
Address by W. Earl Hall, editor of Mason City Globe-Gazette.
2:00 P.M. "Differential Diagnosis of Abdominal Pain," by Charles L. Eckert, M.D.
3:30 P.M. "Headache," by A. L. Sahs, M.D., Professor and Head of the Department of Neurology, University of Iowa, Iowa City.

OUR POST-GRADUATE COURSES 1952-1953

Mark the following dates on your calendar now, as these will be the dates of our post-graduate meetings at Hotel Savery in Des Moines this year.

September, 18, 1952

November 13, 1952

January 22, 1953

NOT YOU, DOCTOR!

A young man rushed into a doctor's office clutching a bloody towel about his hand. He stood for a time by the receptionist's desk while she finished some typing. Finally, she looked up calmly at the young man, and he said, "I've cut my finger bad and it is bleeding. Can I see the doctor right away?" She asked his name and address and then stated, "You know there will be a charge for this?"

Is there anyone among us who would not call the receptionist to task for such behavior the moment it came to our attention? We want tact, decorum, alertness, pleasantness and a thousand other qualities in our receptionists, secretaries and nurses.

Mr. Jones called Dr. Brown on the phone a few days before Mrs. Jones was scheduled to be admitted to the hospital for a hysterectomy, asking if he could come over and have a talk with the doctor. When he sat down in the doctor's office, he said very earnestly, "Dr. Brown, I am worried about my wife. As you know, she is only 27 years old and we have one child but would like to have more if possible. Perhaps she did not tell you of our feelings. Now I am wondering if there is anything that can be done to spare her this operation and give us a chance for another child?"

"No, there isn't," stated Dr. Brown.

"Well, we trust your opinion, Doctor, but do you suppose some other good doctor might possibly have another slant on her problem?" asked Jones.

"I doubt it. I am considered a good diagnostician and according to my code, I cannot let patients or their families influence my judgment on what should be done in the manner of treatment," replied Dr. Brown.

"I understand your position, Doctor, but my sister had what looks to me like the same thing my wife has. Her husband took her to that clinic in Meccaville, and they examined her all over, took a lot of tests, and it took them over a week to do it. They charged her \$150.00; then they decided not to operate but to give her some shots. She got straightened around and now she is going to have another baby next month. I wonder if we could be that lucky. That is why I came to talk to you. What do you think about those doctors in Meccaville?" pleaded Jones.

"They are no better than I am. Besides, they are just in it for the money. One hundred and fifty dollars for an examination! The idea! You can take her there if you want to, but when you come back, if she isn't straightened out, don't look to me to fix up any mess they have made. And don't call me in the middle of the night if she bleeds again!" said the doctor.

"I'm sorry you feel that way," said Jones as he picked up his hat and walked silently out of the doctor's office.

When we take such an attitude, are we setting the proper example of tact, decorum, pleasantness, etc., for our receptionist? Is that managing the simple situation in the best way?

It couldn't happen to you, Doctor! Or could it?

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

BASIC MEDICAL PHYSIOLOGY, by W. B. Youmans, Ph.D., M.D., Professor of Physiology, University of Wisconsin, Madison. The Year Book Publishers, Inc., Chicago, 1952. Price \$7.50.

CULDOSCOPY, A New Technic in Gynecologic and Obstetric Diagnosis, by Albert Decker, M.D., D.O.G., F.A.C.S., Clinical Professor of Gynecology and Obstetrics, New York Polyclinic Medical School and Hospital. Associate Attending Physician in Gynecology and Obstetrics, New York Polyclinic Hospital. W. B. Saunders Company, Philadelphia, 1952. Price \$3.50.

THE HUMAN PELVIS, by Carl C. Francis, A.B., M.D., Assistant Professor of Anatomy, Department of Anatomy, Western Reserve University, Cleveland, O. The C. V. Mosby Co., St. Louis, 1952. Price \$5.00.

NEW AND NONOFFICIAL REMEDIES, Containing Descriptions of the Articles which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1952. Issued under the Direction and Supervision of The Council on Pharmacy and Chemistry, American Medical Association. J. B. Lippincott Co., Philadelphia, 1952. Price \$3.00.

PHYSICAL DIAGNOSIS, by Harry Walker, M.D., F.A.C.P., Professor of Clinical Medicine, Medical College of Virginia, Richmond, Va. The C. V. Mosby Co., St. Louis, 1952. Price \$8.00.

THE PRINCIPLES AND METHODS OF PHYSICAL DIAGNOSIS, by Simon S. Leopold, M.D., Associate Professor of Clinical Medicine; School of Medicine and Graduate School of Medicine, University of Pennsylvania; Director of the Teaching of Physical Diagnosis, School of Medicine; Chief of the Thoracic Clinic, Hospital of the University of Pennsylvania. With a chapter on Thorax by S. Reid Warren, Jr., Sc.D. in E.E., Professor of Electrical Engineering, the Moore School of Electrical Engineering, University of Pennsylvania. W. B. Saunders Co., Philadelphia, 1952. Price \$7.50.

SURGERY OF THE CHEST, A Handbook of Operative Surgery, by Julian Johnson, M.D., D.Sc. (Med.), Professor of Surgery, School of Medicine and Graduate School of Medicine, University of Pennsylvania; and Charles K. Kirby, M.D., Assistant Professor of Surgery, School of Medicine, University of Pennsylvania. The Year Book Publishers, Inc., 200 E. Illinois St., Chicago, 1952. Price \$9.00.

THE 1951 YEAR BOOK OF ENDOCRINOLOGY (January, 1951-January, 1952), edited by Gilbert S. Gordan, M.D., Ph.D., Assistant Professor of Medicine, University of California School of Medicine; Assistant Physician, University of California Hospital; Consultant Endocrinologist, Langley Porter Clinic of the State Department of Mental Hygiene, San Francisco, Calif. The Year Book Publishers, Inc., Chicago, 1952. Price \$5.00.

THE TREATMENT OF INJURIES TO THE NERVOUS SYSTEM, by Donald Munro, M.D., F.A.C.S., Surgeon-in-Chief, Department of Neurosurgery, The Boston City Hospital; Associate Professor of Neurosurgery, Boston University School of Medicine. W. B. Saunders Co., Philadelphia, 1952. Price \$7.50.

THE 1951 YEAR BOOK OF PHYSICAL MEDICINE AND REHABILITATION (December, 1950-January, 1952), edited by Frank H. Krusen, M.D., Professor of Physical Medicine, Mayo Foundation; Head of the Section on Physical Medicine and Rehabilitation, Mayo Clinic; Associate Editors: Earl C. Elkins, M.D., Assistant Professor of Physical Medicine, Mayo Foundation, Consultant in Physical Medicine and Rehabilitation, Mayo Clinic; George C. Deaver, M.D., Professor of Clinical Rehabilitation and Physical Medicine, New York University College of Medicine, Director of the Department of Physical Medicine and Rehabilitation, Bellevue Hospital. The Year Book Publishers, Inc., Chicago, 1952. Price \$5.50.

BOOK REVIEWS

SURGERY OF THE STOMACH AND DUODENUM, by Claude E. Welch, M.D. (The Year Book Publishers, Inc., Chicago, \$8.50).

This book, labelled a "Handbook of Surgery," is designed for the surgeon, but should be on every doctor's bookshelf. It is complete in coverage, from anatomy and physiology to operative complications and their treatment. It is factual and brief, with many drawings, clearly labelled, occupying every other page. It is a handy reference for names as well as technics of most of the operations devised for these two organs. It should be read and re-read by every intern and resident, as well as by those who perform similar operations.—H. E. Wichern, M.D.

THE 1951 YEAR BOOK OF GENERAL SURGERY, edited by Evarts A. Graham, M.D. (Year Book Publishers, Inc., Chicago, \$5.00).

This, as usual, is a compilation of many of the surgical papers published during the past year. The list is most inclusive, well edited and timely. Nearly all surgical entities are presented.

The book is definitely worth while for the busy practitioner who wishes to keep abreast of the changing surgical literature.

Reference is given to the original article for those wanting a more detailed description.—R. M. Knox, M.D.

PRINCIPLES AND PRACTICES OF OBSTETRICS, edited by J. P. Greenhill, M.D. (W. B. Saunders Co., Philadelphia, \$12.00).

Greenhill's revision of DeLee's *Obstetrics* (tenth edition, 1951) continues the fine coverage of all obstetric subjects that has always characterized this work. Those who were "raised" on DeLee will not be disappointed, for the text is replete with the advances made in this field up to the time of publication.

Latest classifications and nomenclature determined in conference between the author and Doctors Titus and Eastman help to bring order and uniformity out of the confusion of the past, especially pertaining to the toxemias of pregnancy. This is a major step forward in the study and discussion of obstetric complications. This textbook is altogether reliable and satisfactory for the student of obstetrics.—F. O. Woodward, M.D.

SURGERY AND THE ENDOCRINE SYSTEM, by James D. Hardy, M.D. (W. B. Saunders Co., Philadelphia, \$5.00).

This book is unique in presenting two aspects of the endocrine system in relation to surgical care. The first six chapters deal with recent advances in physiology as they pertain to the mechanisms involved in the patient's ability to survive injury and to recover following surgery. The importance of the endocrine glands and their hormones in metabolism, body fluid balance, reaction to shock, nutrition, reparative processes and combating infection is vividly expressed.

The last five chapters deal with the surgical aspects of lesions or diseases involving the endocrine glands.

The manner of management of the surgical diseases of the endocrine organs is presented—these are related to the problems involving the thyroids, parathyroids, pancreas, adrenals, pituitary, thymus, ovaries and testes. These surgical diseases are presented in a practical way to emphasize the physiologic considerations, to stress the management of complications and to present some aspects of surgical technics and operative approaches which are especially useful. Also included are excellent bibliographies at the end of each chapter.

This is an exceptionally good monograph which interrelates the present physiologic concepts of the endocrine system in relation to the surgical patient and one which presents the present day concept of surgical diseases involving the endocrine glands. —L. T. Palumbo, M.D.

A TEXTBOOK OF CLINICAL NEUROLOGY, With an Introduction to the History of Neurology, by Israel S. Wechsler, M.D. (W. B. Saunders Co., Philadelphia, \$9.50).

This is the seventh edition of a textbook of neurology that has been a favorite of medical school professors for many years. It has again been enlarged and brought up to date.

For those not specializing in neurology, the first 100 pages will serve as a timely refresher course in methods of examination of neurological patients. A brief description of the Rorschach, the Goldstein-Scheerer and other psychological diagnostic tests is included for general information. A short chapter, "The Sciatic Syndrome and Herniated Disc," is particularly useful in helping the physician orient himself regarding this confusing syndrome. Of special interest to the reviewer is a chapter devoted to the autonomic nervous system, with speculation as to the role played by the endocrines in autonomic syndromes.

This text is highly recommended as a thorough and reliable reference to answer almost any question that might arise over the diagnosis and management of neurological problems.—A. G. Lueck, M.D.

EDITORIALS

(Continued from page 458)

in the BCG. (The normal myocardium responds to exercise by increased output, which is reflected in the amplitude of the complexes. Diminished or no increase in output is considered abnormal.)

Satisfactory ballistocardiograms are impossible to obtain when body tremor or muscle tics are present, when the patient is uncooperative, with tachycardia over 140 or with very rapid breathing. If the patient is exceedingly nervous, reassurance and rest will help; occasionally sedation is required. Distinguishing between abnormality of the ballistocardiogram and artefacts due to somatic tremor is a possible source of error, although experience soon enables one to tell the difference at a glance.

The ballistocardiogram is a useful instrument in cardiac diagnosis, and should be included with the electrocardiogram in the clinical diagnostician's office. However, it does not furnish a rubber-stamp diagnosis. It is no substitute for a good history, complete physical examination and a careful evaluation of findings. It does not replace the electrocardiogram. Rather, it complements it and helps to show abnormalities which the electrocardiogram fails to reveal, acting as a check rein. While serious heart disease may exist in cases where the ballistocardiogram is abnormal and the electrocardiogram is normal, the prognosis is usually worse when both are abnormal. An abnormal ballistocardiogram, especially among older subjects, does not necessarily mean an unfavorable prognosis.

When effective treatment for arteriosclerosis becomes practical, such treatment will undoubtedly achieve better results as a preventive measure, or in the treatment of the early stage. Early diagnosis in coronary artery disease will then be even more important than it is now. At present the ballistocardiogram is the best instrument available for the early detection of this condition.

NATIONAL FUND FOR MEDICAL EDUCATION ANNOUNCES GRANT

The American Medical Education Foundation has just announced that the National Fund for Medical Education will make a Class "A" grant to each of the 79 medical schools in the United States on July 31, 1952. This grant provides \$15,000 for each four year school and \$7,500 for each two year school.

Funds for the grant were derived from the contributions of physicians all over the country, plus contributions from many other organizations and industries.

Every physician in Iowa should by this time have been solicited for this fund. County Society delegates are serving on the campaign committee for the state; they have been asked to approach every member and ask his support.

Each contributor may designate the recipient of his money, if he wishes. Funds so earmarked are given directly to the school in addition to the regular grant mentioned above.

There are no restrictions placed on the use of these funds. The schools receiving them may use them as they see fit and they undoubtedly appreciate the latitude allowed them, since many of them operate on a budget and must be guided by its provisions.

The American Medical Association is underwriting the expense of the Medical Education Foundation so that every dollar contributed may go to the medical schools of the country. This is another of the services it is offering the public and the profession and a further reason why it is now asking dues from its members.

STATE DEPARTMENT OF HEALTH

Walter L. Diering

DDT INTOXICATION AND PRECAUTIONS

A Story County physician recently reported the following case history of one of his patients.

A 38-year old man used an aqueous DDT spray solution during the last week in May. He diluted a 25 per cent suspension which he used for about four hours. During half the spraying time a dense spray blew back over him. Having completed his work he washed himself with gasoline to remove the spray. Two days later he began vomiting and had continued to vomit each day until seen by his physician on June 2, 1952. He had paresthesia of the hands and felt extremely nervous. There were occasional spells when he felt dizzy. His appetite was poor, and he thought he had lost several pounds in weight. He stated that other years after he had sprayed with DDT he had not felt well but that those illnesses were never as severe as this one.

Examination revealed a healthy-looking, 38-year old man who was jittery and had a moderately coarse tremor of his hands. His blood pressure was 150/90, pulse 92 and temperature 99.2°. His general physical examination and neurological examination were completely unremarkable. Laboratory studies revealed entirely normal urine hemoglobin 14.7 gm., and white blood cell count 14,000 with a normal differential. Chest x-ray was normal.

He was treated with a sedative antispasmodic drug which stopped the vomiting, but nervousness continued. When he was next seen on June 6, 1952, he had a coarse tremor of his hands. His white blood cell count was 25,650 with a normal differential. His urine gave no abnormal findings, pulse was 100 and blood pressure 148/96. He was seen on several visits when his complaint of nervousness continued. He continued to run a leukocytosis, but when last seen on June 16, his white blood cell count was down to 13,150. General physical examination revealed no abnormality other than tremor. On June 12 a Brucella agglutination test was performed, which was negative.

While DDT in aqueous suspension is not absorbed through the skin in great amounts, agents such as gasoline greatly increase the amounts absorbed. Thus the patient's illness was likely due in most part to his use of gasoline to remove the spray.

INSECTICIDE PRECAUTIONS

Experience has shown that DDT formulations can be handled with safety when the hazards are understood and the proper precautions are taken.

In human exposures, DDT in solid form is rarely toxic or irritating to the skin and is not absorbed in this form. However, DDT in oil or organic solvents may be absorbed through the skin to produce systemic effects. Further, solvents used in DDT formulations often produce symptoms which resemble those of acute DDT poisoning.

Persons handling or spraying emulsions or solutions of DDT in organic solvents should limit the degree and time of skin contact as much as possible. Synthetic rubber gloves will provide hand protection while mixing or pouring spray mixtures. Goggles are recommended when spray is applied to ceilings and other overhead areas.

Clothes should be changed and the body cleansed with soap and water after each day's spraying operation. Gasoline, kerosene, paint thinner and other organic solvents should be avoided in the clean-up activities for the reasons mentioned above. Clothing should be changed promptly if concentrates are spilled on them. In addition, all skin areas contaminated by contact with DDT-soaked clothing or spilled concentrates should be washed promptly and thoroughly with soap and water.

The precautions presented above are summarized from the Report of the Committee on Pesticides, J.A.M.A., 145:728-733 (March 10) 1951.

MORBIDITY REPORT

| DISEASE | JULY JUNE JULY | | | MOST CASES REPORTED FROM THESE COUNTIES: |
|----------------------|----------------|------|------|---|
| | 1952 | 1952 | 1951 | |
| Diphtheria | 0 | 1 | 0 | ..... |
| Typhoid Fever | 3 | 3 | 2 | Guthrie, Mills, Woodbury |
| Scarlet Fever | 14 | 23 | 7 | Scattered |
| Smallpox ..... | — | — | — | ..... |
| Measles | 145 | 693 | 204 | Dubuque, Linn, Story |
| Whooping Cough ... | 7 | 14 | 78 | Cerro Gordo, Des Moines, Polk |
| Brucellosis | 45 | 45 | 57 | Buena Vista (5), Marshall (4), others scattered |
| Chickenpox | 79 | 161 | 48 | Dubuque, Linn |
| Meningitis men. | 3 | 4 | 3 | Clinton (2), Polk (1) |
| Mumps | 53 | 88 | 93 | Black Hawk, Dubuque, Linn |
| Poliomyelitis | 297 | 45 | 42 | Monona (15), Polk (44), Pottawattamie (13), Woodbury (116) |
| Rabies in Animals .. | 14 | 43 | 22 | Greene, Kossuth, Story (2 each) others scattered 1 to a county. |
| Tuberculosis | 69 | 47 | 94 | For the State |
| Gonorrhea | 24 | 31 | 25 | For the State |
| Syphilis | 55 | 72 | 133 | For the State |

THE FOLLOWING CHART WITH WEEKLY ENTRIES SUBSEQUENT TO JUNE 1, SHOWS THE PERIODICITY OF THE INFECTION IN COUNTIES REPORTING 9 OR MORE CASES

| CASES FOR THE WEEK ENDING | | | | | | | | | | TOTAL CASES |
|---------------------------|-------------------------------------|--------|---------|---------|---------|--------|---------|---------|---------|----------------|
| COUNTY | TOTAL CASES JAN. 1- MAY 30 | JUNE 7 | JUNE 14 | JUNE 21 | JUNE 28 | JULY 5 | JULY 12 | JULY 19 | JULY 26 | |
| Cherokee | — | — | — | — | — | 1 | — | 2 | 6 | 9 |
| Harrison | — | — | 2 | — | — | 1 | 1 | 3 | 3 | 10 |
| Ida | — | — | — | — | 3 | 2 | 1 | 3 | 2 | 11 |
| Monona | — | — | 4 | 7 | 5 | 4 | 6 | 5 | — | 31 |
| Plymouth | — | — | — | — | 1 | — | 4 | 2 | 2 | 9 |
| Polk | 1 | — | — | — | — | 1 | 7 | 6 | 30 | 45 |
| Pottawattamie | — | — | — | — | — | — | 3 | 5 | 5 | 13 |
| Webster | — | — | — | — | — | — | — | 1 | 11 | 12 |
| Woodbury | — | 1 | 1 | 5 | 6 | 14 | 41 | 40 | 21 | 129 |

NOTE: Week August 2, 1952—There were 244 cases of poliomyelitis reported. This is the highest weekly total of poliomyelitis cases ever reported in Iowa, making 1952 years total through August 2, 604 cases.

IOWA POLIOMYELITIS INCIDENCE SUMMARY
January 1 through July 26, 1952

| COUNTIES REPORTING CASES | TOTAL CASES AS OF JUNE 30, 1952 | JULY CASES 1952 | TOTAL CASES REPORTED THROUGH JULY 26, 1952 |
|-----------------------------|---------------------------------------|--------------------|---|
| Adair | — | 1 | 1 |
| Adams | — | 1 | 1 |
| Appanoose | — | 1 | 1 |
| Black Hawk | — | 1 | 1 |
| Boone | — | 6 | 6 |
| Bremer | 1 | — | 1 |
| Calhoun | 2 | 4 | 6 |
| Carroll | 1 | 1 | 2 |
| Cerro Gordo | 1 | 2 | 3 |
| Cherokee | — | 9 | 9 |
| Clay | 1 | 4 | 5 |
| Clinton | 1 | 1 | 2 |
| Crawford | — | 5 | 5 |
| Dallas | — | 2 | 2 |
| Decatur | 1 | — | 1 |
| Des Moines | — | 1 | 1 |
| Dickinson | — | 2 | 2 |
| Dubuque | 1 | 1 | 2 |
| Franklin | — | 1 | 1 |
| Greene | — | 1 | 1 |
| Guthrie | — | 3 | 3 |
| Hamilton | 1 | — | 1 |
| Hancock | — | 1 | 1 |
| Harrison | 2 | 8 | 10 |
| Ida | 3 | 8 | 11 |
| Jackson | 1 | — | 1 |
| Jasper | 1 | — | 1 |
| Johnson | 1 | — | 1 |
| Jones | 1 | — | 1 |
| Linn | 2 | 3 | 5 |
| Louisa | — | 1 | 1 |
| Lucas | — | 1 | 1 |
| Madison | — | 1 | 1 |
| Mills | — | 1 | 1 |
| Monona | 16 | 15 | 31 |
| Muscatine | 1 | — | 1 |
| O'Brien | 1 | — | 1 |
| Page | — | 4 | 4 |
| Plymouth | 1 | 8 | 9 |
| Polk | 1 | 44 | 45 |
| Pottawattamie | — | 13 | 13 |
| Ringgold | — | 1 | 1 |
| Scott | 4 | 2 | 6 |
| Sioux | — | 6 | 6 |
| Story | 2 | 2 | 4 |
| Tama | 1 | — | 1 |
| Taylor | — | 1 | 1 |
| Warren | — | 1 | 1 |
| Washington | 1 | — | 1 |
| Webster | — | 12 | 12 |
| Winnebago | 1 | 1 | 2 |
| Woodbury | 13 | 116 | 129 |
| TOTAL | 63 | 297 | 360 |

From a comparison of 1952 with 1950 (our year with highest reported totals, 1399, January 1 through December 31) we may expect another very high incidence year. As of the same date in 1950, 50 counties had reported 257 cases. To date 1952, 52 counties have reported 360 cases.

BLUE CROSS-BLUE SHIELD
(Continued from page 465)

room allowance to which the member is entitled are shown. This code is explained in detail on the back of the card.

Present members will not be issued the new type identification card until they need a new card. Thus many subscribers will continue to present the old type of card to you and these should be honored as before.

BLUE SHIELD MONTHLY STATISTICS
July 1, 1952

| | |
|------------------------------------|--------------|
| Enrollment | 343,312 |
| Claims Processed for Payment | 7,222 |
| Amount Paid in Claims | \$227,489.59 |

AMERICAN BOARD OF OBSTETRICS
AND GYNECOLOGY

The following requirement, adopted at the annual meeting of the American Board of Obstetrics and Gynecology, is of special interest to candidates for admission to the examinations for certification by this Board: Candidates currently applying for admission to the examinations for certification are required to submit a list of all patients admitted to the hospitals where they practice, for the year preceding their application or the year prior to their request for re-opening of their application, with the diagnosis, pathological diagnosis, nature of treatment and end result.

The next scheduled examination (Part I), written examination and review of case histories for all candidates will be held in various cities of the United States on Feb. 6, 1953. Application for examination or re-examination, as well as request for re-submission of case reports, must be made to the Secretary prior to Nov. 1, 1952.

Application forms for appraisal of incomplete training, for certification and requests for bulletins should be made to: Robert L. Faulkner, M.D., Secretary, American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, O.

SOCIETY PROCEEDINGS

MEETINGS

Adams County Medical Society

The Adams County Medical Society was host to members of the Southwest Iowa Medical Society in Corning July 9. Following the dinner, Dr. John T. Bakody, Des Moines, spoke on "Emergency Treatment of Brain Injuries."

Delaware

The regular meeting of the Delaware County Medical Society was held July 14 at Memorial Hospital, Manchester. Dr. J. Stuart McQuiston, Cedar Rapids, discussed current concepts of the uses of ACTH and Cortisone.

Upper Des Moines Valley Medical Society

Members of the Upper Des Moines Valley Medical Society met for their summer meeting August 7 at the Inn on Lake Okoboji. Speakers were Dr. Raymond R. Rembolt, Iowa City; Carroll B. Larson, M.D., Iowa City, and Philip F. H. Pugh, M.D., Sioux City. Their addresses, respectively, were "Cerebral Palsy," "Low Back Pain" and "The Story of a Family."

Woodbury

The Woodbury County Medical Society met August 8 at the Hotel Mayfair, Sioux City.

PERSONALS

Drs. John N. Baker and John R. Kersten have joined the Kersten Clinic, Fort Dodge. Dr. Baker, a native of Nebraska, received his medical degree from the University of Nebraska College of Medicine, and spent two years in a rotating internship at the University Hospitals, Omaha. He will serve as a general practitioner. Dr. Kersten, Fort Dodge, received his degree in medicine from the Northwestern University Medical School and interned at Wesley Memorial Hospital, Chicago. Dr. Kersten recently completed three years of special training in internal medicine and diagnosis at the Winter Veterans Hospital, Topeka, Kan.

Dr. Henry J. Billerbeck, Denison, has closed his office for a post in Randolph, Neb.

Dr. William W. Bourke, formerly chief of professional services at Knoxville Veterans Hospital, has been named chief of psychiatry in the area office of the Veterans Administration, St. Paul, Minn.

Dr. Eugene J. Boyd, until recently associate professor in the Department of Pathology, State University of Iowa, was appointed pathologist and director of laboratories at Mercy Hospital, Iowa City.

Dr. Charles R. Burroughs, formerly of Harrisburg, Ill., has joined the Mater Clinic and the staff of Collins Memorial Hospital, Knoxville. Dr. Burroughs was graduated from the University of Illinois College of Medicine, 1951, and completed his internship at the St. Louis City Hospital.

Dr. Paul G. Crowley, former member of the Cook County Hospital Staff, Chicago, has associated with *Dr. Stanley F. Smazal*, Davenport. Dr. Crowley received his medical training at Stritch School of Medicine of Loyola University, Chicago, and practiced two years in Chicago before coming to Davenport.

Dr. Donald Dohnalek, Chelsea, has associated with *Drs. William J. Wolf* and *Ardo M. Hess* at the West Union Medical Clinic. A physician and surgeon, Dr. Dohnalek is a graduate of the SUI College of Medicine. He interned at Broadlawns Hospital, Des Moines.

Dr. Charles R. Eicher, formerly of Wayland, has joined *Dr. Andrew C. Garvy*, Iowa City, in the practice of medicine as a physician and surgeon. Dr. Eicher is a 1951 graduate of the SUI College of Medicine. He interned at the San Bernardino County Hospital, San Bernardino, Cal.

Drs. Frank and Dorothy Forsythe are sharing office space with *Dr. Lewis D. Norris*, Newton, for general practice. Mrs. Forsythe (nee Miss Cumming) is a native of Newton; her husband is formerly of Albia. Both are graduates of SUI College of Medicine, 1950 and 1951, respectively. Dr. Frank Forsythe completed two years of internship and

residency at Broadlawns Hospital, Des Moines. Mrs. Forsythe completed her internship there also.

Dr. Kiyashi Furumoto, a native of Hawaii, has associated with *Dr. James T. Worrell*, Bonaparte. He was graduated from the Southwestern Medical School of the University of Texas and interned at the University Hospitals, Iowa City.

Dr. Joseph C. Gottsch, Shenandoah, has associated with his father, *Dr. Edwin J. Gottsch*, in the practice of medicine and surgery. Young *Dr. Gottsch* is a 1951 graduate of the SUI College of Medicine. He interned at Charity Hospital, New Orleans, La.

Dr. Harold C. Hallberg, formerly of Oelwein, has joined *Dr. H. M. Anderson*, Strawberry Point. *Dr. Hallberg* was graduated from the SUI College of Medicine in 1951, and completed his internship at St. Mary's Hospital, Grand Rapids, Mich.

Dr. Dorothy Heuermann, formerly of Hampton, has located in Couler. *Dr. Heuermann* is a 1950 graduate of the SUI College of Medicine. She served her internship at Methodist Hospital, Indianapolis, and was in residency at Broadlawns Hospital, Des Moines for the past year.

Drs. E. M. Juel, Council Bluffs, and *D. E. Wilcox*, Onslow, recently opened offices in Atlantic. Both have just completed their internship at Milwaukee County General Hospital. Both men are 1951 graduates of the SUI College of Medicine.

Dr. Robert M. Johnson, formerly of Cedar Rapids, has associated with *Dr. E. Thomas Scales*, Des Moines. *Dr. Johnson* is a 1951 graduate of the SUI College of Medicine. He interned at Broadlawns Hospital, Des Moines.

Dr. Claire Lindholm, Armstrong, has replaced his brother, *Dr. Hugo A. Lindholm*, in the practice of medicine. He is a 1951 graduate of the SUI College of Medicine. *Dr. Lindholm* interned at St. Luke's Hospital, Duluth, Minn.

Dr. Eugene E. Lister, formerly of Kellerton, has associated with *Dr. William A. Castles*, Dallas Center. *Dr. Lister* is a 1951 graduate of the SUI

College of Medicine. He interned at Iowa Lutheran Hospital, Des Moines.

Dr. R. C. McGeehon has begun the practice of medicine in Indianola. He is a 1950 graduate of the SUI College of Medicine. *Dr. McGeehon* completed his internship at Iowa Lutheran Hospital.

Dr. F. W. Morgan, formerly of Utica, Neb., has associated with *Dr. Arthur L. Blome*, Ottumwa. He was graduated from the University of Nebraska College of Medicine, and interned at Madigan General Hospital, Tacoma, Wash. Following his internship, *Dr. Morgan* spent three years as senior resident in obstetrics at the Baroness Englander Hospital, Chattanooga, Tenn.

Dr. Karl Ryerson, Cedar Rapids, has joined the Lovett Clinic, Vinton. *Dr. Ryerson* was graduated from the SUI College of Medicine in 1951. He interned at the Alameda County Hospital, Oakland, Cal.

Dr. Jess T. Schwidde, former associate in neurosurgery at the SUI College of Medicine, Iowa City, resigned to enter private practice of neurological surgery in Great Falls, Mont.

Dr. Ernest J. Sotrop, formerly of Augora, Ill., has associated with *Drs. Royal C. Danley* and *W. Hawley Kerr*, Hamburg. *Dr. Sotrop* was graduated from the University of Illinois College of Medicine, spent a two year externship at Dupage County Memorial Hospital, Elmhurst, Ill., and completed his residency at Missouri Methodist Hospital, St. Joseph, Mo.

Dr. Edward L. Jacobs, formerly of Sioux City, has purchased the practice of retiring *Dr. Robert T. Spain*. *Dr. Jacobs*, a graduate of the SUI College of Medicine, interned at St. Luke's Hospital, Cedar Rapids.

Dr. Wilbur C. Thatcher, Fort Dodge, has been elected a qualified fellow of the International College of Surgeons.

Dr. Joseph Trotzig, formerly of Vermillion, S. D., has established a practice as physician and surgeon in Akron. *Dr. Trotzig*, a graduate of the SUI College of Medicine, spent the two years prior to this location in Germany as a physician and surgeon in the army.

Dr. David E. Wynegar, Cherokee, former clinical and assistant superintendent at Cherokee State Hospital, has joined the staff of the Veterans Administration Hospital, Omaha, Neb.

Dr. Dalla L. York, formerly of Chicago, has associated with *Dr. Edward L. Croxdale*, Villisca. Dr. York is a 1951 graduate of the University of Illinois College of Medicine. He completed his internship at the Illinois Masonic Hospital, Chicago.

OBITUARIES

Dr. Harold Inman Gosline, 64, died July 18 in Provo, Utah, of a heart attack. Dr. Gosline was graduated from the Harvard Medical School in 1914. He was clinical director of the Woodward State Hospital until June 30, 1951. At the time of his death he was a member of the Dallas-Guthrie and Iowa State Medical Societies.

Dr. Frank Herbert Hanson, 76, died August 6 in his home in Magnolia after several years illness. Dr. Hanson, a 1902 graduate of the University of Nebraska College of Medicine, practiced medicine in Magnolia for 50 years. Until his retirement Dr. Hanson was a member of the Harrison County and Iowa State Medical Societies.

Dr. David Hendric King, 77, veteran Jefferson County physician, died July 2 at St. Joseph's Hospital, Ottumwa. He graduated from Keokuk Medical College in 1898. Dr. King was a life member of the Jefferson County and Iowa State Medical Societies.

Dr. Granville Nimrod Ryan, 82, former Des Moines physician, died of a cerebral hemorrhage July 18 at St. Joseph's Hospital, Pontiac, Mich. He received his medical degree from Rush Medical School, Chicago, in 1895. Among the numerous offices and honors held during his medical career, Dr. King served terms as president of the Polk County Medical Society and vice president of the Iowa State Medical Society. He was a life member of both societies.

Dr. William Walter West, 76, retired Clarinda physician, died July 29 in Clarinda Municipal Hospital. Dr. West was graduated from Keokuk Medical College in 1898. He was a member of the Page County and Iowa State Medical Societies until his retirement in 1949.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of August 10, 1952

Ackerman, J. H., Clarksville
(Tallahassee, Fla.) ... Senior, Asst. Surg., U.S.P.H.S.
Alberts, M. E., Des Moines
(Seattle, Wash.) Lt., U.S.N.R.
Ashby, J. D., Davenport
(Battle Creek, Mich.) Major, A.U.S.
Bartholomew, R. D., Lake City
(Walnut Creek, Calif.) Lt. (j.g.), U.S.N.R.
Bartley, R. L., Sully
(FPO San Francisco, Calif.) Lt., U.S.N.R.
Benge, D. K., Dows
(APO San Francisco, Calif.) Capt., U.S.A.
Benton, J. S., Des Moines 1st. Lt., A.U.S.
Braatelen, N. T., Des Moines
(Camp Carson, Colo.) 1st. Lt., U.S.A.F.
Brown, R. C., Mason City
(Kansas City, Kan.) Capt., A.U.S.
Camp, J. R., Thompson
(FPO San Francisco, Calif.) Lt., U.S.N.R.
Carson, R. W., Winterset
(APO San Francisco, Calif.) 1st. Lt., A.U.S.
Dalager, R. D., Ottumwa
(Annapolis, Md.) U.S.N.R.
Davidson, M. C., Emmetsburg
(El Paso, Tex.) Col., A.U.S.
Davis, S. K., Des Moines
(Seattle, Wash.)
Donahoe, J. F., Fort Dodge
(Camp Atterbury, Ind.) 1st. Lt., U.S.A.F.
Dooley, J. E., Fort Dodge
(Pleasanton, Calif.) Capt., U.S.A.F.
Fitch, R. E., Des Moines
(Bangor, Me.) 1st. Lt., U.S.A.F.
From, Paul, West Des Moines
(San Antonio, Texas) 1st. Lt., U.S.A.F.
Gladstone, W. S., Jr., Iowa City
(Crestview, Fla.) U.S.A.F.
Greco, D. J., Des Moines
(APO San Francisco, Calif.) 1st. Lt., A.U.S.
Gustafson, J. E., Des Moines
(Far East Command) 1st. Lt., A.U.S.
Jensen, K. V., Newton
(El Paso, Texas) Capt., U.S.A.F.
Johnson, A. A., Jr., Council Bluffs
(Fort Worth, Texas) 1st. Lt., U.S.A.F.
Johnson, F. N., Madrid
(San Antonio, Texas) 1st. Lt., U.S.A.F.
Johnson, M. H., Iowa City Capt. A.U.S.
Keil, P. G., Des Moines
(Bangor, Me.) Major, U.S.A.F.
King, R. E., Des Moines
(APO San Francisco, Calif.) Capt. A.U.S.
Kruse, R. H., Conrad
(Pearl Harbor, T. H.) Lt., U.S.N.R.
Kuehn, W. G., Clarinda
(Oceanside, Calif.) Lt. (j.g.), U.S.N.R.
Kurth, R. J., Waterloo
(Minneapolis, Minn.) Capt., U.S.A.F.
Landis, S. N., Des Moines
(Shreveport, La.) Major, U.S.A.F.
Leiter, E. R. K., Des Moines
(Bangor, Me.) Capt., U.S.A.F.
McCrary, W. A., Lake City Capt., A.U.S.
Merkel, B. M., Des Moines
(Greenville, S. C.) Col., U.S.A.F.
Middleton, W. H., Central City
(Quantico, Va.) U.S.N.R.
Mitchell, R. C., Iowa City
(Yorktown, Va.) Lt., U.S.N.R.

Montgomery, A. E., Jefferson
(APO San Francisco, Calif.)Lt. Col., A.U.S.
Mulder, L., Sioux Center
(Sioux Falls, S. D.)Capt., U.S.A.F.
Neagle, P. E., Dubuque
(APO San Francisco, Calif.)1st. Lt., A.U.S.
Nicholson, R. W., Paton
(APO Seattle, Wash.)1st. Lt., A.U.S.
Nordin, C. A., Des Moines
(Lackland Field, Texas)1st. Lt., U.S.A.F.
Odell, J. E., Iowa City
(Seattle, Wash.)Lt., U.S.N.
Ruble, R. L., Nevada
(Camp Chaffee, Ark.)A.U.S.
Saunders, R. J., (Colfax)
(San Antonio, Texas)1st. Lt., U.S.A.F.
Schultz, M. H., Waterloo.....Capt., U.S.A.F.
Shaffer, F. J., Iowa City.....Col., U.S.A.F.
Simonsen, M. N., Sioux City
(Oakland, Calif.)Lt. Cmdr., U.S.N.R.
Smith, C. B., Iowa City
(Ft. Sam Houston, Texas)Capt., A.U.S.
Stutsman, R. E., Washington
(Miami, Fla.)Cmdr., U.S.N.
Tempel, P. F., Steamboat Rock
(APO San Francisco, Calif.)Capt., A.U.S.
Thistlewaite, E. A., Des Moines
(Riverside, Calif.)1st. Lt., U.S.A.F.
Thomas, J. H., Rock Rapids
(APO San Francisco, Calif.)Capt., U.S.A.F.
Tice, W. K., Iowa City
(Kansas City, Kan.)1st Lt., A.U.S.
Tyler, D. E., Shenandoah
(Great Lakes, Ill.)U.S.N.R.
Vincent, J. F., Fort Dodge
(Langley A.F.B., Va.)Capt., U.S.A.F.
von Lackum, L. S., Oelwein
(Great Lakes, Ill.)Lt., U.S.N.R.
Waldmann, E. B., Council Bluffs
(Santa Ana, Calif.)Lt., U.S.N.R.
Walz, D. V., Le Mars
(Sioux Falls, S. D.)1st. Lt., U.S.A.F.
Wehrmacher, W. H., Iowa City
(Oceanside, Calif.)U.S.N.R.
Wiedemeier, J. L., Sioux City
(APO San Francisco, Calif.)1st. Lt., A.U.S.
*Wilkins, D. S., Iowa City
(APO San Francisco, Calif.)Capt., A.U.S.
Witte, H. J., Marathon
(San Francisco, Calif.)Lt. Col., A.U.S.
Woolfolk, J. H., II, Waterloo
(Weaver, S. D.)U.S.A.F.
Young, R. A., Clarion
(Ft. Sam Houston, Tex.)Capt., A.U.S.
Zeilenga, R. H., Orange City
(Madison, Wisc.)1st. Lt., U.S.A.F.

WOMAN'S AUXILIARY

(Continued from page 462)

Council, and in some counties a Health Council is functioning. Though not very old or firmly organized groups, the Councils do a fine job in bringing order and direction to the counties' various health-minded agencies and organizations. Properly organized, and with good leadership, they offer an almost unlimited field for community improvement.

No place is perfect. Often we are too complacent about the good old home town. We ignore the haphazard immunization programs, the stray dogs

and cats liable to carry rabies, the vacant lots or fence rows growing up to rag weeds to annoy hay fever victims in August, the fact that Farmer Jones supplies milk to a route in town from an untested herd of cows, the sewage pollution of our streams or the funny-tasting water out at the rural school. We are apt to say that nothing has happened yet, so why get alarmed? I'll leave those questions for you to answer yourselves.

Why should I be talking thus to the Auxiliary of the State Medical Society? To be sure, I do not ask you to go home and start a County Health Council on your own initiative; but if you should, or if you find one in the process of organization or think there is a need to stir others into the same train of thought, you will find that the State Medical Society has been studying Health Councils, and can and will give you advice and assistance, through your County Medical Society. The men of medicine are necessary in these councils.

However, you have a group in your own Society that has accomplished a great deal locally. If, by chance, it has not already been brought to your attention as a group, I wish to here applaud the Woman's Auxiliary to the Clay County Medical Society for their work in sponsoring the new Service and Welfare Bulletin for Clay County. They felt that there were enough welfare organizations being supported by the community to take care of the community needs. They undertook a research project to track down every agency, of whatever means of support, to which citizens of the county contributed. They found that some of their doctor husbands did not know how to use many of the existing agencies, and didn't have time to ferret out the names and addresses of directors or chairmen of these agencies.

Members of the Clay County Woman's Auxiliary decided to print a bulletin, got financial support and published this directory to "Clarify to the citizens of Clay County the general profusion of available aids to Public Health and to prevent overlapping and duplication of services and efforts of existing organizations." This bulletin is in loose leaf form to facilitate keeping it up to date, and each organization has its own page with a current list of officers, addresses and phone numbers; and a committee is arranged to keep the Bulletin up to date. The ladies of the Clay County Auxiliary are to be commended. Their work could well be duplicated, and perhaps by now has been duplicated in some communities, but not as widely over the state as would seem advisable. These ladies of the Clay County Auxiliary have pointed the way to reduce further intervention through Federal assistance and perhaps, to cut their local tax load in the community. They have surveyed the health resources of their own county and outlined them for all to use to the best advantage.

JOHN D. CONNER, M.D.
Member of the Committee
on Health Education

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1952-1953

| | |
|----------------------------|-------------------------------|
| President | Ben T. Whitaker, Boone |
| President-Elect..... | Robert N. Larimer, Sioux City |
| First Vice President..... | Elias B. Howell, Ottumwa |
| Second Vice President..... | Lester C. Kern, Waverly |
| Secretary..... | Allan B. Phillips, Des Moines |
| Treasurer..... | N. Boyd Anderson, Des Moines |

COUNCILORS

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|--|------|
| First District—Cluley C. Hall, Maynard..... | 1955 |
| Second District—Charles H. Cretzmeyer, Algona..... | 1953 |
| Third District—Matthew T. Morton, Estherville..... | 1954 |
| Fourth District—Paul W. Brecher, Storm Lake..... | 1955 |
| Fifth District—Ernest M. Kersten, Fort Dodge..... | 1954 |
| Sixth District—Otis D. Wolfe, Marshalltown..... | 1955 |
| Seventh District—Harold A. Housholder, Winthrop..... | 1953 |
| Eighth District—Clyde A. Boice, Washington, Secretary..... | 1954 |
| Ninth District—Elias B. Howell, Ottumwa..... | 1953 |
| Tenth District—Ivan K. Sayre, St. Charles..... | 1954 |
| Eleventh District—Oscar Alden, Red Oak..... | 1955 |

TRUSTEES

| | |
|---|------|
| Lonnie A. Coffin, Farmington, Chairman..... | 1953 |
| John W. Billingsley, Newton..... | 1954 |
| Wendell L. Downing, LeMars..... | 1955 |

DELEGATES TO A. M. A.

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|---|-----------------|
| George Braunlich, Davenport..... | January 1, 1955 |
| Julian E. McFarland, Ames..... | January 1, 1953 |
| Gerald V. Caughlan, Council Bluffs..... | January 1, 1954 |

ALTERNATE DELEGATES TO A. M. A.

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|------------------------------------|-----------------|
| Frank G. Ober, Burlington..... | January 1, 1955 |
| Ernest M. Kersten, Fort Dodge..... | January 1, 1953 |
| Donovan F. Ward, Dubuque..... | January 1, 1954 |

EXECUTIVE COUNCIL

| | |
|--------------------------------|----------------|
| Ben T. Whitaker, Chairman..... | Boone |
| Robert N. Larimer..... | Sioux City |
| Allan B. Phillips..... | Des Moines |
| N. Boyd Anderson..... | Des Moines |
| Lonnie A. Coffin..... | Farmington |
| John W. Billingsley..... | Newton |
| Wendell L. Downing..... | LeMars |
| Cluley C. Hall..... | Maynard |
| Charles H. Cretzmeyer..... | Algona |
| Matthew T. Morton..... | Estherville |
| Paul W. Brecher..... | Storm Lake |
| Ernest M. Kersten..... | Fort Dodge |
| Otis D. Wolfe..... | Marshalltown |
| Harold A. Housholder..... | Winthrop |
| Clyde A. Boice..... | Washington |
| Elias B. Howell..... | Ottumwa |
| Ivan K. Sayre..... | St. Charles |
| Oscar Alden..... | Red Oak |
| George Braunlich..... | Davenport |
| Julian E. McFarland..... | Ames |
| Gerald V. Caughlan..... | Council Bluffs |

THE JOURNAL

| | |
|------------------------|------------|
| Everett M. George..... | Des Moines |
|------------------------|------------|

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

| | |
|--------------------------------|------------|
| Ben T. Whitaker, Chairman..... | Boone |
| Robert N. Larimer..... | Sioux City |
| Allan B. Phillips..... | Des Moines |
| N. Boyd Anderson..... | Des Moines |

COMMITTEE ON CONSTITUTION AND BY-LAWS

| | |
|-----------------------------------|------------|
| George C. Albright, Chairman..... | Iowa City |
| Henry C. Scharnweber..... | Boone |
| Floyd M. Burgeson..... | Des Moines |

GRIEVANCE COMMITTEE

| | Term Expires |
|--|--------------|
|--|--------------|

| | |
|------------------------------------|------|
| Leo C. Kuhn, Decorah..... | 1954 |
| Leslie W. Swanson, Mason City..... | 1953 |
| Thomas L. Ward, Arnolds Park..... | 1954 |
| John W. Bushnell, Sioux City..... | 1953 |
| Lester D. Powell, Des Moines..... | 1954 |
| S. Dale Porter, Grinnell..... | 1953 |
| Joseph W. Lawrence, Dubuque..... | 1954 |
| Elmer A. Larsen, Centerville..... | 1954 |
| Lester E. Hooper, Indianola..... | 1953 |
| Charles H. Flynn, Clarinda..... | 1954 |

LEGISLATIVE COMMITTEE

| | |
|---------------------------------|------------|
| Frank C. Coleman, Chairman..... | Des Moines |
| John W. Billingsley..... | Newton |
| John D. Conner..... | Nevada |
| Ben T. Whitaker..... | Boone |
| Allan B. Phillips..... | Des Moines |

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

| | |
|----------------------------------|------------|
| Donald C. Conzett, Chairman..... | Dubuque |
| F. Harold Entz..... | Waterloo |
| Lee F. Hill..... | Des Moines |
| John H. Randall..... | Iowa City |
| George H. Scanlon..... | Iowa City |

MEDICOLEGAL COMMITTEE

| | |
|---|------|
| Frank A. Ely, Chairman, Des Moines..... | 1953 |
| Loren K. Meredith, Des Moines..... | 1955 |
| Eugene F. Van Epps, Iowa City..... | 1954 |

COMMITTEE ON MEDICAL SERVICE

| | |
|-------------------------------|-----------------|
| Fred Sternagel, Chairman..... | West Des Moines |
|-------------------------------|-----------------|

Insurance

| | |
|----------------------|------------|
| Martin I. Olsen..... | Des Moines |
|----------------------|------------|

Public Information—Doctor-Patient Relationships

| | |
|-------------------------------|--------------|
| Otto N. Glesne, Chairman..... | Fort Dodge |
| Donovan F. Ward..... | Dubuque |
| Cecil W. Seibert..... | Waterloo |
| Edward H. Files..... | Cedar Rapids |
| William M. Sproul..... | Des Moines |

Veterans' Affairs

| | |
|-------------------|----------|
| Roy C. Gutch..... | Chariton |
|-------------------|----------|

Allied Professions

| | |
|--------------------------------|------------|
| James E. Reeder, Chairman..... | Sioux City |
|--------------------------------|------------|

John B. Thielen.....Fonda
Eugene Smith.....Waterloo

Labor and Industry

Tom D. ThrockmortonDes Moines

Hospital and Professional Relations

Callistus H. Stark, Chairman.....Cedar Rapids
Ernest M. Kersten.....Fort Dodge
Gordon F. Harkness.....Davenport
Richard F. Birge.....Des Moines
Charles T. Maxwell.....Sioux City
Arthur W. Erskine.....Cedar Rapids
Nathaniel G. Alcock.....Iowa City

Relief and Health Agencies

Frank D. McCarthy, Chairman.....Sioux City
Social Welfare—Channing Smith.....Granger
TB and Heart—Ralph E. Smiley.....Mason City
Polio—Don H. Penly.....Cedar Falls
Crippled Children, Cancer, Red Cross, Women's Clubs,
AAUW, etc.—John C. De Meulenaere.....Grinnell

Health Education

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—

John D. Conner.....Nevada
Henry C. Scharnweber.....Boone
John J. Shurts.....Eldora

Industrial Health

Raymond F. Frech, Chairman.....Newton
Howard H. Smead.....Des Moines
Stanley T. Moen.....Cedar Rapids
Christian B. Luginbuhl.....Des Moines
Harold A. Spilman.....Ottumwa
Carl J. Lohmann.....Burlington
Leo J. Miltner.....Davenport
Harry A. Amesbury.....Clinton

Rural Health

Dwight G. Sattler, Chairman.....Kalona
Elmer A. Larsen.....Centerville
Bruce F. Howar.....Webster City
James M. Tierney.....Carroll
Robert S. Jaggard.....Oelwein

Geriatrics

Charles V. Edwards.....Council Bluffs

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Sigmund F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Iowa City
J. Donald Hennessy.....Council Bluffs
Richard F. Birge.....Des Moines

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Joseph G. Fellows, Chairman.....Ames
Cecil V. Hamilton.....Garner
J. Stewart Jackson.....Mount Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids
Marcus B. Emmons.....Clinton
Charles C. Graves.....Des Moines
William E. Ash.....Council Bluffs
Gerald R. Rausch.....Sioux City

NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

John W. Ferguson, Chairman.....Newton
Edward M. Honke.....Sioux City
Frank G. Ober.....Burlington
William I. Evans.....Sac City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Rubin H. Flocks.....Iowa City
Willard S. Phetepplace.....Davenport

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Willis M. Fowler.....Iowa City
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Ralph E. Smiley, Chairman.....Mason City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
William Spear.....Oakdale

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, OCTOBER, 1952

No. 10

SHALL I CALL AN ORTHOPEDIST?

FOSTER MATCHETT, M.D.

DENVER, COLO.

HIPPOCRATES was the first orthopedic surgeon because he used traction, applied splints in fractures, corrected and held club feet and attempted to correct certain spinal deformities. This was in the 4th century B.C., but the term "orthopaedia" was not adopted until after Audrey used it in the title of his work, published in 1741. The word is derived from Greek words meaning "straight" and "child." It has been defined as the science of the correction of deformities in a child or a person of any age. According to Ralph Ghormley, president of the American Orthopedic Association, orthopedic surgery is considered "that branch of surgery, the purposes of which are to prevent and correct deformity and to preserve and improve function of the bones and joints and motor apparatus when function is threatened or impaired by defects, lesions or diseases."

In recent years orthopedic surgery has developed rapidly, partially because of the impetus given it in attempting to correct injuries received by service men in World Wars I and II. During the war years a large proportion of the orthopedists in the United States were in service. Many remained through 1948. It was a wonderful time for orthopedists. Thanks to Surgeon General Norman Kirk, an orthopedist, the army attempted to use qualified men in this specialized field whenever possible, and they undoubtedly helped to hold down the mortality and reduce the disability rate.

The orthopedist must be primarily a mechanic and a carpenter; he must like things balanced and plumb-square but his manual dexterity must be directed and ruled by his mind. What then is it that prompts a young physician to go into orthopedics?

All surgery appeals to the neophyte, probably because it is mechanical, definitive and dramatic. Therefore, after the student graduates and serves the usual twelve month rotating internship, he follows with a year's internship in general surgery where he acquires the basic surgical principles

and technics. It is at this point that he makes up his mind to specialize in orthopedic surgery, which requires three years more of special training.

It is logical that the training should start with children. During the year spent on pediatric orthopedics, the would-be orthopedist sees the mistakes of nature, learns the fundamentals of deformity and how nature itself may be utilized in correcting them.

The year of children's orthopedics leads naturally into the year of adult orthopedics where neglected slipped epiphyses, arthritics who had Legg-Calve-Perthes disease, neglected poliomyelitis and the scoliotics are the expected sequelae of the conditions he saw in the previous year. Next, he spends six months in laboratory service to gain a better understanding of pathological bones and joints. The balance of the year is spent in full-time fracture work. The trainee receives a total of 60 months training, of which the last six months are the climax. During this period he is known as an *orthopedic fellow in fractures*.

The student orthopod has been looking forward to this day, when he may work with traction to align bony fragments or fix and graft as the occasion warrants. He learns that children's fractures get well almost in spite of rather than because of their fracture treatment, providing length and alignment are maintained. He learns that it is ideal to be able to reduce a fracture at once. Yet occasions will arise when he will resort to methods of "Dinty" Moore, professor of Orthopedics at Temple Medical College, Philadelphia, whose 1,000 cases demonstrated that fractures can be "ice-boxed" in circular plasters and reduced at a later date with excellent results, providing there was no circular impairment nor dislocation and no nerve injuries or possibility of compounding. Some patients cannot stand immediate operative work under general anesthesia, and local anesthesia leaves much to be desired.

After completion of his training, the young orthopedist should plan to take his board examinations. He may begin practice as the junior member of an established orthopedic team, join a group or set up for himself. In any situation, his

goals of achievement or recognition from his fellow orthopedists will include membership in the recognized specialists' organizations. Here in Iowa, several of the members of the Iowa State Medical Society are members of both the American Academy of Orthopedic Surgeons and the American Orthopedic Association, which is the highest honor in orthopedic surgery.

Faced with the question of starting orthopedic practice, a man must consider the economic and community needs and facilities. For years it was thought that 40,000 persons were necessary to support an orthopedist. However, the city of Boston in 1934, with a population of 750,000, had over 40 orthopedists—a ratio of approximately one per 18,000 persons. The state of Colorado with one and one-fourth million persons has 24 orthopedists, or one to each 60,000 persons—not enough, by any means. It is now known that a community of 20,000 population can well support an orthopedist. Why should there be orthopedists in smaller communities? There are a number of reasons:

1. Early, proper reduction of fracture injuries.
2. Economic importance to the patient. When he is near home, his treatment is proportionately accelerated by elimination of travel time and expense.
3. Increased confidence in the local medical facilities; to build the local community.
4. Wider use of mechanical aids in the home, farm and industry, plus increased speed on the highways, favors higher incidence of injury. Again, early and prompt care is vital.
5. Improved results available locally and elimination of necessity for referring patients to large centers.

In the future, undoubtedly, the demand for orthopedists' services will determine their availability. General practitioners are increasingly resistant to handling orthopedic cases and fractures, hence many younger orthopedists are being called to the smaller communities.

How can the orthopedist be used? The answer depends upon the needs and the willingness of local physicians. An orthopedist's practice is based on the demands of the community: industrial, compensation, legal or a combination. My practice, for example, is a hodgepodge. It consists of teaching at the University of Colorado Medical School, consultation at Fitzsimons Army Hospital and the Veterans Administration Hospital, service on the staffs of the city and state hospitals, the National Jewish Hospital for Tuberculosis, the Division of Crippled Children and private practice.

Often a surgeon consults me about the best method of handling a particular case, or because he lacks experience or proper tools. I may advise him not to try to do the job. Again, I may tell him how to do it, especially if he is a capable man—one who can, with the proper assistance, achieve a good result. The important point is that the patient receive the best possible attention.

One of the foremost essentials of a good physician is the kind of honesty which appraises personal ability and skill with regard for limitations. When faced with the problem of a patient suffering from a condition which needs orthopedic care, a physician possessed of integrity will determine if he is able to examine the knee (or hip or back) and form an opinion based on these findings; if he can recognize limited joint motion and muscle spasm, or establish the presence of a resulting muscle weakness in a child who has had a brush with polio. He asks himself if he is capable of diagnosing such orthopedic conditions. If dubious, he calls a specialist.

The medical student, intern and resident should be taught more orthopedic physical diagnosis. How many times is the intern asked, "How is the patient?" only to be answered, "He's O.K." What does he mean? How much more helpful it would be if he said, "I examined your patient carefully. I believe he has a contusion sprain of the inner side of the knee, right, with resulting internal derangement, possibly a bucket handle tear of the medial semilunar cartilage. He may also have a moderate tear or severe sprain of the medial collateral ligament below the cartilage."

An outstanding example of cooperation between general practitioners and specialists is the handling of poliomyelitis victims. For some time the physician in pediatrics or general practice, who usually sees the patient first, has established the diagnosis and got the patient to the hospital or center for proper care. In such centers there are facilities and trained personnel for the care of bulbar and severely paralyzed spinal patients, expert nursing care, respirators and physiotherapy for those who need it. The National Foundation for Infantile Paralysis advises early orthopedic consultation and subsequent management of the patient by the orthopedist and his physical therapists. This is to the best interest of the patient and should be a relief to the referring physician, as it absolves him from responsibility. The orthopedist will care for bracing, ambulation and reconstruction work; the pediatrician or general practitioner should continue in the capacity of consultant because he knows the patient's history and background. The orthopedist watches for knee flexion, recurvatum, drop foot, muscle substitution or paralytic club foot. The most insidious deformity is scoliosis which creeps up on the unsuspecting parent and even upon the family physician.

The orthopedist starts with the over-all picture of the patient's condition after the acute attack or in the paralytic stage. From that point he judges the healing progress of the patient. There is no excuse for permitting a child to develop a leg four inches short because of unfamiliarity with mechanical or operative retardation of growth in the good leg.

The pediatrician meets many orthopedic problems which may seriously affect the patient's ad-

justment to later life. The arthrogrypotic is the orthopedist's delight. He has club feet, club hands, elbows and knees that won't bend, stiff shoulders and dislocated hips. Congenital scoliosis, although rare, is found in infants and very young children. *Talipes primus varus* should not be therapeutically delayed any more than club feet. Both should be treated as soon as possible. *Congenital amputations* are distressing, but to parents who have carried such children to college age, they are no problem. Bow legs can be helped; a child's limp can be confusing, but with knowledge of epiphysitis of the hip, tuberculosis, *coxa plana* and slipped femoral epiphysitis associated with adolescence, the orthopedist becomes the pediatrician's partner, thus minimizing the problem.

X-ray laboratories manned by well-trained technicians under the supervision of skilled radiologists are an invaluable asset in orthopedic conditions. Most orthopedists are accustomed to reading their own films and to interpreting them in the light of a carefully taken detailed history and clinical examination of the patient. The orthopedist appreciates the radiologist, but since there are many inconsistencies in x-rays, the clinical and laboratory findings and apparent x-ray defects must be coordinated by the man who is to treat the patient or perform the surgery later. I was fortunate enough to study under Dr. Ed Chamberlain, roentgenologist at Temple Medical College, who followed the history, physical findings, operations and autopsies of his x-ray cases and rendered his interpretations in the light of these coordinated findings.

Because the orthopedist uses x-rays to answer specific queries, no number of routine views will answer his needs. Although he relies on oblique views of the lumbosacral junction to reveal laminal and pedicle defects he also realizes that the stereoscopic films are a good projection for delineation of bone pathology.

The radiologist can aid the orthopedist greatly by training his technicians to measure patients and adjust exposure time and kilovoltage to obtain better definition in certain areas, such as the lateral view of the neck of the femur. If the roentgenologist does not set the standards and demand excellent quality films, the patient is penalized.

Nearly all orthopedic conditions may be classified in two large categories: Congenital lesions and acquired lesions. The congenital lesions are self-explanatory; the acquired lesion may be subdivided as follows:

Traumatic—sprains, strains and fractures.

Neurogenic—spastics and poliomyelitis.

Neoplastic—osteomas and bone tumors.

Pyogenic—osteomyelitis and tuberculosis.

Metabolic and Nutritional—rickets and scurvy.

Degenerative—osteoarthritis.

Postural—scoliosis and static deformities.

Psychogenic—camptocormia and psychogenic complaints.

Elaboration on some of these conditions as the orthopedist sees them may aid in determining the advisability of referring them to a specialist. For obvious reasons, institutional care of tuberculosis patients has proven the most efficacious. From the orthopedist's standpoint, knees, hips, ankles, shoulders, elbows and wrists often are the seat of the skeletal lesion. Vertebral lesions are often multiple. The treatment continues to be rest until the sedimentation rate is stabilized, the patient is afebrile and his general health is practically normal. In some instances a course of streptomycin and para-amino salicylic acid may be advisable. It is at this stage that internal splinting will offer improvement or expedite the cure. Surgical fusions on the various joints are usually done by the orthopedist.

Some of the troubles which confront the obstetrician require orthopedic consultation. The postural phases of the later months of pregnancy sometimes bring real problems. Erb Klumpke obstetrical palsy is often encountered. Every physician knows that delivery fractures of the humeral and femoral shafts and epiphyseal injuries and periosteal tears are common. Intra-uterine amputations elicit sorrow and repercussions. Sometimes the mother's pelvic ligaments seem to stay relaxed, to her dismay. Some young mothers even injure knee ligaments during delivery.

Once the patient delivers, she becomes a gynecologic problem. Her back hurts; she wonders if she hurt herself, she needs reassurance. Consultation is important in such cases so that both patient and obstetrician may know that nothing is wrong orthopedically. Ruptured discs have been known to develop under these circumstances. A severe lumbosacral lordosis is often slow in healing following delivery. Posture plays its part with the weight problem, increasing the other complaints. If backaches persist or if they antedated the pregnancy, certain x-rays, careful neurological and orthopedic examinations are in order. Often an unstable low back situation is uncovered. It could continue for months unless some simple measure, possibly proper support, prevented development of a chronic back complaint.

Backache is a symptom complex known to physicians and surgeons for ages, and especially to orthopedists. Detail symptoms are known to all. Backaches may be divided into three types: (a) those which primarily affect the low back; (b) those which primarily cause sciatica affecting the leg, and (c) a combination of both.

As orthopedists, my associates and I handle our own private disc cases. We remove the disc and if necessary, fuse. The results are consistently good. The decision to do a fusion with the laminectomy depends on the nerve involvement, the instability of the spine, amount of laminae cut

away and other pathology found at operation. We are always prepared to bone graft, because there is plenty of local iliac bone in the posterior crests and good "bone-bank" bone is available in both St. Joseph's and Children's Hospitals, Denver. We do surgery only on patients who have persistent, intractable pain of long duration and upon whom every type of conservative treatment has been tried. Every case of sciatica, certainly, is not caused by a ruptured disc nor is there any reason for referring all disc cases to a neurosurgeon for operation. If the patient obtains no relief from the neurosurgeon's treatment, he drift back or is referred to the orthopedist. Most orthopedists operate discs and fuse when necessary. Their good results vindicate this therapy. As might be expected, with state compensation patients the results are generally poorer. There is a higher percentage of permanent disability.

Since Dr. Mossa Tayler, orthopedist of the Medical College of Evangelists, encountered only three or four tumors in over 2,000 cases of laminectomies and other explorations, it may be assumed that tumors are not common, although their potentiality must be constantly borne in mind.

Assisting thoracic surgeons in the postoperative period following second and third stage thoracoplasties is a field of orthopedic service because scolioses naturally follow such extensive surgical procedures just as they follow purulent empyema. Hand and tendon surgery requires particular interest in function and painstaking follow-up with gadgets and physical therapy. Not all orthopedic surgeons are good in this field, but many general surgeons are highly qualified to do the work because they are meticulous and enjoy that type of reconstruction. Their results are often good but seldom excellent.

Because good results in fractures are dependent upon a high degree of mechanical ability the teaching of the science of fracture therapy, especially the handling of difficult problems, should be the orthopedist's responsibility. No one can doubt the wisdom of experience gained from the handling of large numbers of difficult cases. Although the orthopedist may not handle as many Colles and greenstick fractures as the general practitioner, his training and his aptitudes are such that he should obtain a better result. His charge to the patient is about the same as that of the general practitioner.

It is well known that the many fractures handled daily at Boston City Hospital keep the internes and residents busy, yet there are comparatively few fractures treated at Massachusetts General Hospital. The latter is a teacher and guide in this field. It is felt there that numbers of cases do not indicate correctness of methods. Regardless of experience, almost anyone obtains a rather poor result with comminuted wrist fractures. There-

fore, why should anyone expose himself to censure when he knows what the results may be? The orthopedist may be able to give the patient a better wrist, so why not let him have the responsibility and the praise or blame that may accrue with it?

If the injury is in a weight-bearing joint, Watson-Jones tells his patients he will reduce it today; later, he may fuse it. In the adult most severe elbow injuries give painful restricted motion unless careful open reduction with accurate reposition of fragments is done. Many complications may arise, especially with the supracondylar fractures of childhood. When and when not to open a humeral fracture, if opened should a bone graft be used, primarily, or should the graft be done later? Should one use an intramedullary nail? These are the usual questions.

How many surgeons care to handle a fracture or dislocation of the cervical spine? The man who considers possible complications usually steers away from it. If the dislocation is unstable and Vinke or Grutchfield tongs must be used, the inexperienced operator should hesitate to attempt it. The severely compressed comminuted lower dorsal or lumbar vertebra which cannot be reduced and may need fusion should be handled by an experienced man.

In regard to carpal scaphoid fractures, metacarpals or phalanges, serious problems can develop. In these cases it is to be remembered that first of all, the hand, wrist and fingers must function.

The average fractured pelvis responds to rest in bed without complications except in girls. For them, the pelvic inlet must be checked for size so as not to preclude future pregnancy. If dislocation at the sacro-iliac joint exists, reduction is necessary either by immediate manual manipulation under anesthesia or slowly by direct traction. Fracture dislocation of the hip or central dislocation usually requires surgical intervention.

The old "fracture-neck-of-the-femur" problem is becoming less disturbing now that nailing is the accepted treatment. In spite of the fact that all surgical residents learn the hip nailing technic during their orthopedic service, the work still has its complications. Cups and prosthesis are used to replace the old arthritic nonfunctioning aseptic necrotic heads. Some of the high subcapital fractures should have immediate removal of the head and replacement with the vitallium head mounted on a Smith Petersen nail.

For long bones, the newer methods of plating should always be used. We should be ever grateful to Dr. George W. Eggers of Galveston for his great contribution to bone healing. In brief, it involves continuous bone contact of fragments because bone plates can hold fragments apart just as well as together. Sliding plates with loose screws should be used. Intramedullary nailing of

long bones is a gratifying procedure, especially when used for the femur. In the future it will undoubtedly be adapted for many other bones.

The combined fracture into the knee joint deserves much study. Often the tibial tables must be raised and blocked by surgical means. The Watson-Jones dictum that a fracture into a weight-bearing joint must be as perfectly reduced as possible to prevent traumatic arthritis later is still axiomatic. Since skiing has become so popular, middle malleolar fractures are common. My associates and I do not hesitate to put in a screw. Thus both bones above the ankle look better and heal faster and, we believe, are better as a result of immediate reduction and screw fixation without disturbing any more periosteum than has already been torn.

Mention should be made of the radiation fractures which occur as a result of overirradiation for therapy of malignancy and other lesions. These occur especially in the region of the neck of the femur. They should be treated by the same methods as those used for any other fracture in the same location.

In conclusion, I reiterate that cooperation between physicians in general and specialized fields makes for satisfaction to all concerned. It produces better health for the patient, better public relations for the profession and better practice for the physician.

ASEPTIC NECROSIS OF EPIPHYSES

GEOFFREY W. BENNETT, M.D.

OSKALOOSA

ASEPTIC NECROSIS of epiphyses is synonymous with osteochondritis dissecans, osteochondrosis, avascular necrosis, osteochondritis dissecans of the growth centers, subchondral necrosis and many other similar terms. The use of aseptic necrosis has been accepted as descriptive of the pathological process which produces the clinical syndrome of death of an epiphysis or secondary growth center without sepsis. These diseases or conditions are probably as old as endoskeletal life, but our knowledge of the specific entities begins in 1888 when Konig organized the existing knowledge and described the disease known as osteochondritis dissecans of the knee. We know now this condition may occur in any joint. In 1903, Osgood described the painful tibial tuberosity in young boys. Kohler described changes in the tarsal scaphoid and primary ossification center of the patella in 1908, and in 1909, Legg described the disabling hip condition, described also in 1910 by Perthes and Calve. It bears their three names, but is more commonly known as Legg-Perthes disease. Increased use of the diagnostic or inquisitive x-ray exposed many new conditions to description. Their identity had been hidden because

they did not require surgical intervention which would have revealed their nature, nor did they come to autopsy. As the literature accumulated and new studies disclosed more information, it became apparent that these conditions are related, so they have been classified as aseptic necroses of epiphyses to unify the confusing "name" entities under their rightful pathological nomenclature.¹

With our present understanding, if it can be called such, we can conceive of aseptic necrosis of any epiphysis. The term includes the entities which have been found commonly enough to warrant description. Usually they are known by the name of the man who first described the condition.

PATHOLOGY

Bone necrosis is produced by interruption of adequate blood supply. It has long been accepted that bones contain end arteries, so it is apparent that vascular occlusion, even partial, will produce infarction in the involved bone identical with infarction in the spleen, lung, brain or heart, although the immediate symptoms are more obscure when the bone is involved and may be unrecognized until secondary symptoms of bone death or collapse of the bony part has ensued.² Pathologic and roentgenologic studies have revealed a reparative reaction setup in adjacent living bone and joint structures in response to necrotic bone or cartilage. A zone of fibrous tissue is set up between viable and necrotic bone and invades the marrow spaces of the dead bone, breaking down and replacing the dead bone as it advances, and laying down new bone in its wake. Removal of dead bone is accomplished partly by osteoclasts and partly by direct action of the new bone replacement. This process, described by Phemister, is known as "creeping substitution."³ In epiphyseal necrosis, as in necrotic adult bone, this process of substitution of living bone for compact dead bone is clearly apparent roentgenologically and is used as a criterion of progress of healing in the disease.

ETIOLOGY

There has been much speculation on the cause or causes of aseptic necrosis, but no definitely conclusive proof has been offered. True epiphyseal separations are not included in this presentation. We know the necrosis is due to insufficient blood supply to the epiphysis, but why is it deficient to the point of producing necrosis and immediately adequate to sustain the replacement process? Congenital vascular anomalies have been blamed⁴ as has vitamin deficiency and endocrine disturbance, probably hypothyroidism. Nonspecific infections arising in the upper respiratory tract have been credited with etiological significance.^{2, 4} There are many strong adherents to the theory of trauma as the sole etiology, a single massive trauma or repeated minimal assaults whose cumulative effect

is sufficient to cause the necrosis of the epiphysis. Many of the youngsters subjected to all these factors never develop aseptic necrosis of any epiphysis. In many of those who do show aseptic necrosis of one or more epiphyses, none of the commonly accepted etiological factors can be definitely demonstrated. We must concede that any of these conditions could produce aseptic necrosis by interference with the blood supply to the epiphysis, possibly by neurocirculatory reflex through the sympathetic nervous system. It does not follow that we can experimentally reproduce the disease since the factors cannot be controlled by man.

As has been pointed out in naming the specific categories, the clinical appearance of each disease comes during certain ages, varying with the factor of human variation. Allowing also for the symptomatic variation with each individual which brings the patient under observation, we find that the disease occurs at a fairly constant period of life of each epiphysis rather than the life of the individual; that is, at the time between the appearance and closure of the epiphysis, when the growth is most active. Another point to be made is that the epiphyses most frequently involved by aseptic necrosis are of the spine and lower extremities, which subjects them to the strain of activities such as running, jumping and lifting. From these observations it appears that aseptic necrosis occurs because the nutritional demands of the epiphysis for growth and maintenance exceeds the blood supply, similar to gradual death of a vegetable on the vine during drought periods.

An accurate incidence of these conditions cannot be determined because many never come under observation. The relative frequency of the different manifestations of the disease cannot be listed for the same reason. Many cases are overlooked and undiagnosed or unrecognized unless deformity has occurred or symptom disability is severe during the active process.

I will summarize the more common conditions. Since aseptic necrosis of the femoral head is the most important of these, I have elected to discuss this disease in more detail. Bear in mind that each is the same disease though located in different regions.

Osgood-Schlatter's disease is aseptic necrosis of the epiphysis of the tuberosity of the tibia, coming usually between the tenth and thirteenth years. It frequently is bilateral.

Kohler's disease, most often aseptic necrosis of the tarsal scaphoid, may also be necrosis of the primary ossification center of the patella.

Sever's disease, or calcaneal apophysitis, is necrosis of the epiphysis of the calcaneal tuberosity. It usually occurs between eight and ten years of age. It also is frequently bilateral.

Friberg's disease, or Friberg's infraction of the second metatarsal head, is necrosis of the

distal epiphysis of that bone. It occurs four or five times more frequently in girls than in boys, and comes on after the tenth year.

Sinding-Larsen's disease is aseptic necrosis of the secondary ossification center of the patella, a comparative rarity.

Scheuermann's disease is aseptic necrosis of the epiphyseal plates of the vertebral bodies, usually associated with the dorsal vertebra and known synonymously as *kyphosis dorsalis juvenilis*. This condition comes between 12 and 17 years of age and is fairly common among the teen-age boys who live and work on the farms. It is felt the trauma of work is an outstanding etiological factor in the production of this condition which leads to "round back," or dorsal kyphosis, if untreated. The disease is most common in the fifth to the ninth dorsal vertebra, where mechanical strain is greatest on the concave arc. However, it may occur at any level, even at the fourth or fifth lumbar where the vertebrae are on the convex arc. The protrusion of the intervertebral disc into the centrum of the vertebra, known as *Schmorl's disease*, is considered a complication of the necrosis of the epiphyseal plates of the vertebra.

Legg-Perthes' disease is aseptic necrosis of the epiphysis for the femoral head. It occurs between the ages of three and 12 years, most frequently between six and eight years. Boys are affected five times as frequently as girls.

The symptoms may start as pain in variable degree, localized in the groin or buttock and frequently referred to the knee. There may be no pain complaint, but a refusal to stand or walk may be the first indication of disease, or the child may develop a limp as the first symptom. On examination, there is usually limitation of rotation of the hip and muscle spasm of the hip rotators or the thigh adductors. There is usually no temperature elevation and laboratory tests are of no value. Roentgenograms made at the onset of symptoms may vary in their revelations from no visible abnormality to complete destruction of the head. They are not directly proportionate to the severity of symptoms since a comparatively mild symptomatology may show extensive necrosis roentgenologically. The opposite is also true. When x-rays do not confirm the clinical suspicion, it may be that the disease is early. Treatment then should be undertaken on the clinical findings. I feel that I have prevented true necrosis of some hips by relieving the factors of stress; that is, weight bearing and activity, when the clinical findings alone showed hip disease.

Treatment for aseptic necrosis of the femoral head is both general and local. Nutrition, hygiene and general body physiology must be controlled as indicated. At one time, patients were kept in bed traction for as long as three years. Legg concluded that local treatment did not affect the end result.⁵ Some men have advocated rigid immobil-

ization for the duration of the disease. My criticism of these courses is that they are not physiological. The aim of local treatment should be to obtain a revitalized femoral head with a contour as nearly normal as possible. So far as I am able to determine from personal inquiry and search of literature, the necrotic bone of the epiphysis is always replaced with living bone. Therefore, if the articular cartilaginous shell is protected from weight-bearing deformity and permitted to be moulded by the concavity of the acetabulum, even by free motion during the process of the dead bone replacement, we feel we are giving the hip the best chance to regain its normal shape.⁵ This type of protection may be given by elevation of the shoe sole of the good limb and ambulation with crutches or by a walking caliper brace which transfers the weight to the ischeal tuberosity. Those too young to follow such methods are helped by an abduction bar fastened to the shoes which does not permit standing but allows motion.

The progress is checked roentgenologically at three to six month intervals. The disease course and healing time usually last about three years. Smaller epiphyses obviously will not last as long.

Prognosis of Legg-Perthes' disease must be guarded. When a deformed head is the end result, osteoarthritis of the hip may be assured, but the disability of the hip may be nil until many years have passed. Many individuals live vigorous active lives until at 60 or 65 years of age, they are disabled by an osteoarthritic hip. It is not until then that x-ray examination reveals they had aseptic necrosis of the femoral head in their childhood.

SUMMARY

This paper has been presented for the purpose of showing that aseptic necrosis of epiphyses is the same disease process and mechanism, regardless of the regional location. The various manifestations of the disease and their several names have been mentioned, and a more detailed discussion of symptomatology, treatment, course and prognosis of aseptic necrosis of the hip has been presented.

BIBLIOGRAPHY

1. Pease, C. N.: Symposium on pediatrics: avascular necrosis of bone in children. *M. Clin. North America*, 35:165-186 (January) 1950.
2. Phemister, D. B.: Changes in bones and joints resulting from interruption of circulation. *Arch. Surg.*, 41:436-472 (August) 1940.
3. Phemister, D. B.: Repair of bone in the presence of aseptic necrosis resulting from fractures, transplantation and vascular obstruction. *J. Bone and Joint Surg.*, 12:769-787 (October) 1930.
4. Doub, H. P.: Aseptic necrosis of the epiphyses and short bones. *J.A.M.A.*, 127:311-317 (Feb. 10) 1945.
5. Cole, W. H.: Clinical diagnosis, treatment and prognosis of epiphyseal disturbances in childhood. *J.A.M.A.* 127:318-320 (Feb. 10) 1945.

THE SHOULDER SYNDROME

FRANK G. OBER, M.D.

BURLINGTON

THE PROVINCE of this discussion shall be limited to the supporting structures of the shoulder girdle. An effort will be made to cover the common entities of the shoulder girdle, namely the supraspinatus syndrome, the frozen shoulder and bicipital syndrome and, finally, calcified tenonitis and bursitis. No discussion of the shoulder girdle should be opened without first acknowledging the monumental work of Codman and the more recent contributions and clarifications of DePalma and Bosworth.

Briefly, considering the anatomy of the shoulder joint, the capsule is a loose redundant structure which allows great mobility of the joint. This is reinforced by the musculotendinous cuff in the superior aspect. This cuff is composed of the tendinous portion of the four short rotators, namely the supraspinatus, infraspinatus, teres minor and subscapularis muscles. These flat tendons so interlace with each other and the capsule that it is impossible to differentiate them.

There are numerous bursa about the shoulder girdle, but the one of prime importance in this discussion is the subdeltoid or subacromial. Its floor is intimately attached to the musculotendinous cuff. The long head of the biceps (one of the abductors) plays a most important role in the etiology of shoulder disability. From an anatomical point of view therefore, the laxity of the joint and the numerous synovial folds predispose this joint to injury. The folds offer an area for the deposition of fibrin. The nature of the joint itself from the routine usage in life tends to degenerative process more than other joints.

The supraspinatus syndrome, a term coined by Bosworth, embodies a group of lesions which directly and indirectly involve the supraspinatus region of the cuff. It includes complete and incomplete tears of the tendon of the supraspinatus, tenonitis, varying degrees of subacromial bursitis, in addition to exostoses of the humeral tuberosity which do not involve the cuff. From a functional viewpoint the rotator cuff tends to engage the head of the humerus into the glenoid to furnish a fulcrum for the deltoid to abduct the arm. The supraspinatus, in addition, aids in abduction.

The supraspinatus, due to its location and function, is subject to more stress and strain. Consequently the majority of tears occur in this region of the cuff and in the tendon. The tears may be complete or incomplete. The vast majority are on the synovial side. In addition to the supraspinatus area tears there may be any combination of tears approaching complete avulsion. As shown by De Palma, the size of the tear in the cuff has no direct bearing upon the severity of the clinical pic-

ture. The degree of disability depends upon the disproportion of strength between the rotators and the deltoid in the mechanism of abduction.

For example, a laborer with a heavy deltoid with an incomplete tear of a weak cuff would have greater disability due to the overpowerfulness of his deltoid, but by the same token a less vigorous individual may have practically a complete tear, yet with the weakened deltoid may be nearly asymptomatic.

Naturally, complete or incomplete tears of the musculotendinous cuff are due indirectly to trauma. There is usually the history of falling on the outstretched hand or causing severe exertion on the arm in abduction. However, in the older patient proportionately less trauma is necessary due to degenerative process of the cuff. Likewise, the presence of calcareous deposits in the tendon of the supraspinatus does not mean that this joint would be symptomatic.

Codman's original description of the clinical features of the rupture of the supraspinatus tendon is still so comprehensive that no one has been able to add anything new.

For the sake of clarifying the clinical picture it is justifiable at this point to repeat some of the anatomy referable to the musculotendinous cuff. All four rotators (the subscapularis, supraspinatus, infraspinatus and teres minor) are welded together with the fibrous capsule into one musculotendinous sheath which inserts into the superior half of the anatomic neck of the humerus. The fibers of the four tendons are so intimately laced together and with the fibers of the capsule that they cannot be separated, even by sharp dissection. Since the supraspinatus region of the cuff is subjected to the greater stress and strain, the vast majority of the tears occur here. They extend either way in the cuff. The lesion usually occurs after middle age. If it does occur in younger individuals it is the end result of severe trauma.

The occupation of the patient is important, inasmuch as most lesions occur in those engaged in strenuous occupation. These individuals tend to inflict repeated minor injuries to the cuff which in time tend to make a complete tear. Pain which is sudden and sharp at the time of the injury is a constant and characteristic symptom. Although the pain is usually at the tip of the shoulder, it may also be referred to the insertion of the deltoid.

The patient may volunteer that he had a sensation of "tearing" or "snapping" at the time of the injury in the shoulder. Within a few hours the pain will subside, only to recur with greater severity in the following six to 12 hours. For the next week the pain increases in severity and then tends to diminish gradually. For the first several days during the active stage of hemorrhage, the tissues are distended, causing increased tension and pain. Not until the cessation of bleeding and absorption of exudate will the symptoms tend

to abate. During the acute painful period marked distention of the joint is accompanied by muscle spasm. The pain is aggravated by activity and interferes greatly with the patient's sleep. During this stage motor function is impaired and the muscle spasm is so severe that adequate examination cannot be made.

There is marked tenderness over the tip of the greater tuberosity. A characteristic "catch" or soft tissue crepitation may be elicited when the arm is abducted beyond the horizontal plane. These signs are again elicited as the arm is lowered to the side. In older cases there may be atrophy in the muscle itself and some hypertrophy of the deltoid muscle, due to its double function. X-ray examination is usually negative except in long standing cases which may reveal dishing out about the tubercle.

To summarize: In the acute phase the symptoms are too fulminating to make an accurate diagnosis. Even after the subsidence of the acute symptoms, complete tears do not necessarily cause symptoms. The symptomatology is due to the imbalance of the rotator cuff and the deltoid muscle. Accurate diagnosis between complete and incomplete tears may be made in the late stage by the fact that abduction is weak in the former and stronger in the latter, but again it may be stated that multiple lesions about the cuff may assimilate incomplete tear and even complete tear.

Treatment during the acute stage should be directed at the relief of pain, the overcoming of muscle spasm, the restoration of motion, prevention of muscle atrophy and disturbing sequelae. Sedation is usually necessary, especially at night, for about a week. Procaine injections three or four times during the acute stage may offer dramatic relief. Rest is essential, but complete immobilization is undesirable. At intervals of five or six hours the arm should be removed from the sling and the patient encouraged to use pendulum exercise for a period of from five to six minutes. Heat and physiotherapy are distinct adjuncts. Normal motion should be encouraged as soon as the acute symptoms subside. Immobilization can not be too severely condemned, in view of the fact that the lesions occur in people in which degenerative alterations may set up an inflammatory process resulting in a frozen shoulder. If the aforementioned conservative routine is followed, the vast majority of cases will respond.

Operative treatment may be considered if the symptoms warrant, but under no circumstance should they be resorted to before a period of 12 to 14 weeks have elapsed. In the older cases conservative treatment should be considered for several months before surgery is resorted to. This includes heat, massage, rest, procaine injections and painless passive motion.

The frozen shoulder is one of the most frequent shoulder disabilities encountered by the physician.

This symptom complex usually occurs in people past forty. The syndrome may appear after a minor injury or may appear insidiously, with no history of trauma. When a history of trauma is obtained, the pain has progressed until the patient is no longer able to sleep at night. There is atrophy of both the spinatus and the deltoid. The arm is carried in internal rotation and flexed at the elbow. Any motion elicits severe pain. No doubt much of the lack of motion is due to pain rather than to joint fixation. Tenderness can always be elicited along the long head of the biceps. Not infrequently all the signs and symptoms of a supraspinatus syndrome may exist.

The clinical course is unpredictable because it may terminate at any stage or exist for weeks or years before any evidence of regression is noted. In cases that have been prolonged, normal function cannot be expected. The etiology of such an entity is muscular inactivity plus the uniqueness of the shoulder anatomy. The articular capsule is loose and redundant. When the arm is in a sling position many folds exist at the anterior-inferior aspect at the glenohumeral joint. Moreover, the rotator cuff beneath the insertion of the muscles provides large surface for the accumulation of serofibrinous fluid. It follows that a shoulder placed at rest because of functional inactivity, regardless of cause, loses its muscle tone, with the resultant muscle atrophy. Coincidentally, the balance of the metabolic process of the tissue is disturbed, resulting in a slowing of the circulation, ending in a venous and lymphatic stasis. All adjacent soft tissue, including the musculotendinous cuff, becomes saturated with serofibrinous exudate which provides a fibrin for the formation of capsular, synovial, fascial and intramuscular adhesions. This develops into a low grade chronic inflammation of all tissues, including the subacromial bursa and the long head of the bicipital tendon.

Functional activity will reverse the process. If the afore-mentioned phenomena should occur in a joint exhibiting degenerative alterations the process continues until there is firm fixation of the scapular humeral joint. With extra articular and intracapsular adhesions all structures lose their elasticity and those of the antral-lateral aspect of the joint become short.

The frozen shoulder is more common in persons over forty because it is then that the degenerative changes are taking place about the shoulder joint. Also it is more prone to occur during the course of constitutional disease, such as in heart and pulmonary afflictions, during prolonged debilitation following a surgical procedure. Bicipital tenosynovitis plays a major role in the symptomatology and the etiology of frozen shoulder. Involvement of the tendon sheath's gliding mechanism may be primary or secondary. Regardless of the origin, once it is established it causes pain adequate to

restrict motion and to impair circulation in the afore-described site. To me the fact that a transplant of the long head of the biceps to the coracoid process gives complete relief of symptoms when all other therapy fails, is conclusive proof that bicipital tenosynovitis is one of the main causes of frozen shoulder. In many cases of frozen shoulder following a period of disability from pain, shoulder function is slowly regained and restored to normal function. In these cases it is only reasonable to assume that the infection subsides, muscle spasm is relieved, adhesions undergo resolution and muscle activity is restored. In turn this tends to restore normal circulation. Pain and stiffness persist in other cases.

Therapy of the frozen shoulder is a matter of trial and error. In the acute stage rest is essential. Avoid any immobilization. Sedation for pain at night, heat and physiotherapy help. If symptoms are persistent and the case not too old, I believe that gentle manipulation under general anesthesia, followed with active exercise and the administration of ACTH, is of definite value. Manipulation should be condemned in all cases of over three months duration. Some patients respond to ACTH or cortisone with physiotherapy; others obtain dramatic relief from x-ray therapy. If all therapy fails and the tenderness persists along the biceps tendon I feel that the patient is entitled to an exploration and a transplant of the long head of biceps.

Calcified tenonitis, bursitis and calcareous tenonitis are the most common cause of shoulder pain. Calcification of tendon has been described in tendons of all parts of the body, but is probably most frequently found in the shoulder, usually in the region of the supraspinatus area of the cuff. Males are more often affected than females. Occurrence is most common during the third, fourth and fifth decades. Trauma plays an exciting role in the younger patient giving rise to minor tears in the cuff. The calcifications are nature's attempt at repair. Any occupation causing excessive motion in use of the arm may be a predisposing factor. The deposit of calcium seems to stem from the central zone to the tendon itself. These lesions do not occur immediately following injury; they usually appear three or seven months later. Thus the x-ray immediately following injury shows no deposits. Later examination will definitely demonstrate calcification. The mere fact that calcium deposits exist does not preclude that symptoms must follow. Symptoms will not present themselves until there is sufficient tension within the tendon itself or it extends to the overlying bursa.

As you recall, the subacromial or subdeltoid bursa lies over the musculotendinous cuff and beneath the deltoid muscle. When the process is active enough it extends through the floor of the bursa and in time involves the bursal sac. Again the existence of a large tumefaction within the

bursa may be asymptomatic. It may not be discovered until routine roentgenogram is made for other purposes.

By the same token, a small fleck may be very painful, due to the accompanying distention of the bursa. When the bursal sac is calcified and distended the pain is greatest as the arm is raised. This is due to the impingement of the sac as it passes under the coracoid humeral ligament and again when it descends. Consequently, the patient is fairly comfortable with the hand above the head or at the side.

Hard and fast rules for the symptomatology cannot be set down. They may appear in subacute, acute and chronic stages or a combination of all three. The pain may come on suddenly in a previously asymptomatic arm, during the acute, subacute or chronic phase. It may first present itself during the night. The excruciating nature of the pain often causes sleepless nights. Any motion aggravates it and will radiate to the deltoid and down the arm, even to the finger tips. There is muscular spasm about the shoulder girdle. As symptoms gradually subside, spasm abates and motion is restored. Some return to normal promptly while others have restriction of the glenohumeral joint over an unpredictable period of time. The sudden onset is the result of an acute inflammatory process of the floor of the bursa, causing distention. Should the sac rupture a milky exudate is exuded and the symptoms are promptly relieved. If the bursa is incompletely emptied there remains intact some of the calcified material which may be the basis for recurrence of an acute attack or the continuation into a subacute or chronic stage. In subacute cases the symptoms may persist for months, but under adequate management they eventually disappear. The severity varies from that of mild catches to excruciating pain, as the mass may impinge on the coracoid humeral ligament. The pain is referred to the deltoid and may extend the full length of the arm or even to the posterior aspect of the scapula. The chronic stage may persist for years with only an occasional twinge. However excess use or trauma may cause this phase to flare into a subacute or acute stage. In considering treatment it is well to bear in mind that the disease is self-limiting even though uncomfortable. Evacuation of the bursa offers complete relief. Remaining calcareous material precludes subsequent attacks. During the acute stage sedation is necessary. The bursa may be evacuated surgically, but this is rarely necessary. When attempted, the bursa may be irrigated with novocaine solution so that the arm can be gently manipulated. The inflammatory process may be treated by x-ray therapy. Heat during the first few hours usually aggravates the pain. Ice relieves the congestion. If irrigation and injection alone are to be used, the arm should be tied to the head of the bed for a period of 24 to 48 hours and heat ap-

plied. A pendulum-type swinging exercise and over-head pulley and wall climbing exercise should follow this. X-ray therapy may produce dramatic results with some, but no effect on others. In the subacute or chronic cases x-ray therapy is of definite value; however, the patient should be forewarned that he will experience a flare-up which may approach excruciating pain during the first two or three treatments. Irrigation may aid in breaking up the deposits, and gentle manipulation under general anesthesia may aid in evacuating the bursa.

If all conservative measures fail and the impression is that of a frozen shoulder, it may be necessary to remove the calcareous deposits surgically, at the same time transplanting the long head of the biceps.

SUMMARY

1. Due to the anatomy of the shoulder joint, which is vulnerable to injury and degenerative processes, most entities occur after the fourth decade.
2. Occurring entities are so closely related that a differential diagnosis many times is impossible since one may be the causative factor of the other.
3. Bicipital tenosynovitis is a primary cause of a frozen shoulder.
4. Conservative treatment is effective in the vast majority of cases.
5. Immobilization should be condemned in all entities, acute or chronic, about the shoulder girdle.

BIBLIOGRAPHY

1. Codman, E. A.: *The Shoulder*. Boston, T. Todd Co., 1934.
2. DePalma, A. F.: *Surgery of the Shoulder*. Philadelphia, J. B. Lippincott Co., 1950.
3. Neviaser, J. S.: Adhesive capsulitis of the shoulder. *J. Bone & Joint Surg.*, 27:211-222 (April) 1945.
4. Bosworth, B. M.: Calcium deposits in the shoulder and subacromial bursitis; survey of 12,122 shoulders. *J.A.M.A.*, 116:2477-2482 (May 31) 1941.
5. Bosworth, B. M.: Examination of shoulder for calcium deposits. *J. Bone & Joint Surg.*, 23:567-577 (July) 1941.
6. McLaughlin, H. L.: Muscular and tendonous defects at the shoulder and their repair. *Am. Acad. Orth. Surg., Reconstr. Surgery Instruction Courses*, Ann Arbor, G. W. Edwards, 1942.
7. Howarth, M. D.: *Text Book of Orthopedics*. Philadelphia, W. B. Saunders Co., 1952.

THROMBOANGIITIS OBLITERANS: RESULTS OF SYMPATHECTOMY

LOUIS T. PALUMBO, M.D.
DES MOINES

THE PERFORMANCE of sympathectomy in the management of patients suffering from the effects of thromboangiitis obliterans (Buerger's disease) has gained widespread recognition in the past few years. The success of this form of therapy is based on the release of the associated vasoconstriction

From the Department of Surgery, Veterans Administration Hospital, Des Moines.

Sponsored by the Veterans Administration with the approval of the Chief Medical Director. Statements and conclusions published by the author are a result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

of the vascular system of the extremity, particularly of the smaller vessels. The collateral unaffected channels are thereby permitted to develop to the fullest degree. In this manner the blood supply and tissue metabolism may be improved sufficiently to bring about early relief of symptoms, early healing of chronic ulcers and a rapid rehabilitation of the patient. As a result of this the need for major amputations may be delayed for many years.

It is not intended to infer that sympathectomy modifies the course of the vascular disease process in itself or the existing pathological changes already present in the vessel. However, the elimination of sympathetic control of the smooth muscles of the vessels, particularly the smaller channels, can bring about an improvement in the circulation of the extremity involved. In many cases the associated pathological changes, involving not only the main vascular channels but the somatic and sympathetic nerve supply in association with these channels, can induce continued irritation and stimulation of these nerves. The stimuli can produce reflex action, causing persistent vasospasm and vasoconstriction. These combined factors and resultant changes bring about diminished blood flow to the extremity, particularly to the peripheral parts. The diminished flow, which includes total volume and speed of flow, produces changes in the metabolism of the cells as a result of reduced oxygenation and stagnation of blood. A tendency to sludge formation because of the reduced calibre of the smaller vessels and reduced velocity of the blood stream follows. In time this slowing up process involves the larger vascular channels. Its continuation can result in thrombosis of the various channels.

Such disturbances in vascular flow may bring about marked physiological changes in the tissues involved. These changes, plus the inflammatory reaction which occurs about the vessels and associated nerves, are responsible for the various types of pain described by patients. Ischemia, vasospasm, pathological changes within the vessel wall and those affecting the sympathetic and somatic nerves produce pains of various types. Among them are resting pain, intermittent pain, stinging and burning pain in the feet and legs. In addition the patient will complain of coldness, discoloration of the extremities and excessive sweating of the toes, feet and legs.

Collateral channels of the smaller vessels, usually unaffected by disease, have an elastic potentiality greater than is realized. This intricate vascular bed is highly sensitive to any changes which may be stimulated by external, internal or local means. Mechanical, chemical, toxic or emotional factors may cause the stimuli. Changes in the vascular bed and channels can result in sudden reversible and irreversible conditions in the capillary network and adjoining large vessels. A better appreciation of these sudden changes could be had if one could see this vascular pattern at work through a visual

window, of the kind used in many experiments with rabbits. Ebert, Ahern, and Bloch have done a great deal of work on the pathogenesis of tuberculosis in the rabbit's ear through a visual window.¹ The opportunity to study reflex action on the vascular network and blood flow is readily apparent in this study.

The indication for sympathectomy in patients suffering from Buerger's disease is based upon the presence of vasospasm or vasoconstriction. This evidence can be demonstrated by the use of lumbar or dorsal, as the case may be, procaine hydrochloride paravertebral block of the sympathetics. The elimination of vasospasm in the collateral vascular channels usually results in considerable warming up of the extremity and cessation of sweating. The patient will state that his extremity feels warmer and that he is relieved of all of the former pain or the pain is improved and that he is able to walk a greater distance with little or no discomfort. These temperature changes can be recorded on a skin thermocouple. The rise in temperature following injection may be from 4 to 12 degrees Fahrenheit. However, a rise in temperature of even one degree can be readily detected by the examiner's hand. Due to this fact a satisfactory response can be readily judged by manual detection. It has been found that the relief or improvement of symptoms the patient experiences following a response to paravertebral block and the manual detection of a rise in the temperature of the skin by the examiner is usually sufficient evidence that vasospasm is present and that favorable improvement can be expected following a sympathectomy.

In the past several years many favorable reports have appeared in the literature on the surgical treatment of patients with this disease.³⁻⁹ De Takats reported on 50 cases; 37 were able to resume full-time work, seven returned to part-time duty and six remained invalids.¹⁰ In 34 cases, Freeman stated 31 were improved and three were unimproved. Five in the former group required minor amputation.¹¹ LaTona and Le Fevre treated eight patients; five were definitely improved, two unimproved and one required minor amputation.¹² Messinger and others reported nineteen cases recently, all with satisfactory results.¹³ Cooper and Harris performed sympathectomies in 113 patients.¹⁴

The sympathetics which supply the lower extremity arise from the second to the fourth lumbar levels of the spinal cord. These preganglionic neurones pass by way of the ventral roots to the common nerve trunk and from there by way of short rami to the sympathetic chain. The neurones form a synapse with postganglionic neurones at the second, third and fourth lumbar levels. They then pass out of the chain and join the peripheral somatic nerves or large vessels to reach the structures they supply.

The lumbar sympathectomy is usually accomplished through an anterior muscle-splitting in-



Figure 1 A. Anterior view.

Figure 1. Typical loss of sweating (light areas) right upper extremity following dorsal sympathectomy.



Figure 1 B. Posterior view.

cision of the abdominal wall at the level of the umbilicus. The approach to the sympathetic chain is accomplished extraperitoneally. The chain is usually resected from below the first to below the fourth lumbar ganglion. There are a great variety of patterns of this chain in the area, from one, four to eight ganglia. The chain, too, may vary in size and location. Occasionally it is represented by only two small filaments. The lymphatic chain and associated lymph nodes in this area frequently are prominent and enlarged due to the inflammatory changes in the extremity. Because of this it is easy to confuse the lymphatic chain with the sympathetic chain.

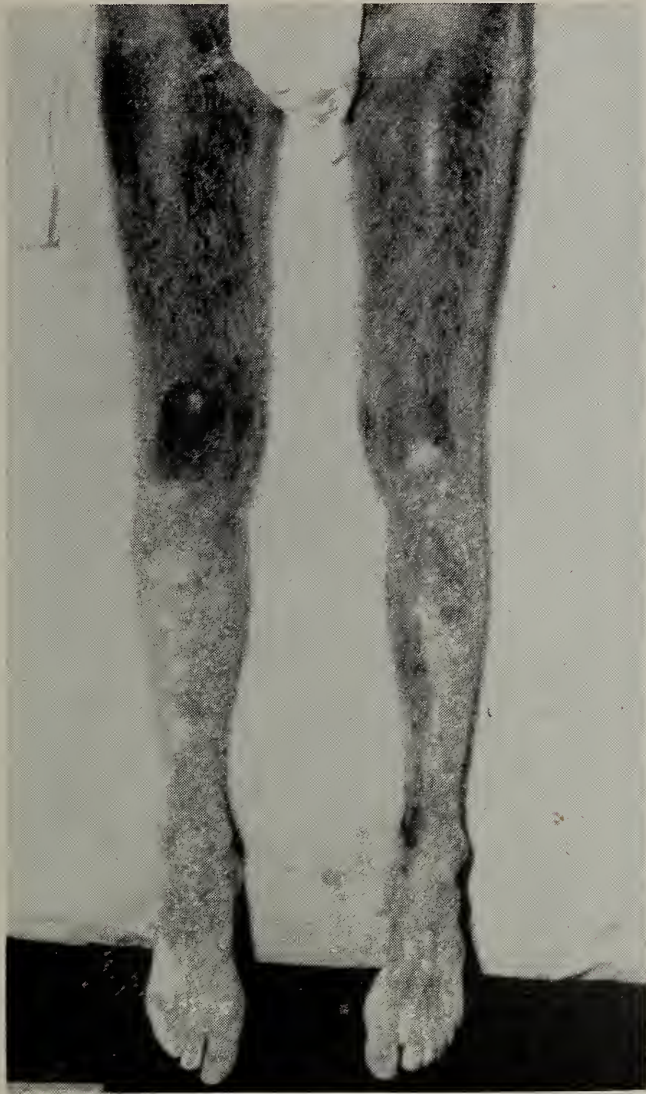
The abdominal wound is sutured with silk. The patient can be ambulated on the first postoperative day.

In the upper extremity the sympathetic nerve fibers pass from the second and third thoracic levels of the spinal cord and enter the sympathetic chain where the main synapse with postganglionic neurones occurs at the second thoracic sympathetic ganglia. The fibers then pass by way of the second and third intercostal nerves to reach the adjoining nerves or vessels of the upper extremity. In order to produce sympathetic denervation of the upper extremity a paravertebral resection of a portion of the third rib is performed. The sec-

ond and third intercostal nerves with the corresponding anterior and posterior roots are removed intradurally, the rami are transected and the sympathetic chain is sectioned below the third thoracic ganglion. A silk wound closure is used, and the patient can be ambulated on the first postoperative day.

The success of the surgical procedure from the standpoint of sympathetic denervation can be readily seen and measured by the performance of a Minor's starch iodine sweating test. These tests are generally performed about 14 to 18 days postoperatively. Absence of sweating in the denervated areas appears light, whereas the areas still under sympathetic control appear dark. The sweating causes the starch iodine mixture to change colors. Typical denervation is shown in Figures 1 and 2 for a bilateral lumbar sympathectomy for the lower extremity and a unilateral for the upper extremity in a patient with Buerger's disease of all four extremities.

The incidence of thromboangiitis obliterans in patients treated under our surgical service has been 0.14 per cent. This covers a survey which involved over 22,000 patients in a period of five years. In 31 cases a dorsal or lumbar sympathectomy was performed. The initial symptom was intermittent claudication in the majority of patients.



A



B

Figure 2. Typical loss of sweating both lower extremities following lumbar sympathectomy. (A) Anterior view—loss of sweating result of denervation below knees. (B) Posterior view—typical pattern with loss of sweating including both thighs and buttocks.

Many had cold clammy toes, feet, legs and/or hands. Several cases had a history of recurrent attacks of localized acute thrombophlebitis. All were males and none were of the Jewish race. The majority had symptoms for over three years prior to admission to this hospital. The patients were from 20 to 60 years of age; the greatest number (36 per cent) appeared in the 31 to 40 year age group. In 90 per cent of the patients the lower extremities were involved. Both upper and lower extremities were involved in the remaining ten per cent.

All of the patients smoked at least one package of cigarettes per day, and in 30 per cent of cases they smoked at least two packages daily.

Fifty-one operations were performed. Twenty were bilateral and 11 were unilateral lumbar sympathectomies; there was one unilateral and one bilateral dorsal sympathectomy.

In this group of patients immediate relief of severe pain of the aching and burning character in the feet and/or legs occurred following the operation. The ten patients who had an associated gangrene or ulceration of the foot experienced less severe pain, usually localized to the site of

involvement. In six cases in which infection and ulceration existed, five healed rapidly and completely. Four of the five cases with gangrene of the toes required local amputation.

Major amputations were required seven months later in two cases. Both patients refused to discontinue smoking. The patients appreciated the loss of the cold clamminess of the extremity and the increased warmth and tolerance to cold.

SUMMARY

Sympathectomy in properly selected cases of thromboangiitis obliterans, showing a vasospastic element to the vessels of the vascular bed, may result in early relief of symptoms, rapid healing of ulcers and early rehabilitation of the patient. This has been noted in a follow-up study of our group of patients over a period of four years. A sympathetic denervation in early cases may prevent or delay the need for a major amputation, which, when it becomes necessary, can be performed below the knee in the majority of cases.

BIBLIOGRAPHY

1. Ebert, R. H.; Ahern, J. J.; and Bloch, R. G.: Development

of tuberculous infection; in vivo observations in rabbit ear chamber. *Proc. Soc. Exper. Biol. & Med.*, **68**:625-633 (July-August) 1948.

2. Campbell, K. N.; Harris, B. M.; and Collier, F. A.: Follow-up study of patients with thromboangiitis obliterans (Buerger's disease). *Surgery*, **26**:1003-1012 (December) 1949.

3. De Takats, G.: Value of sympathectomy in treatment of Buerger's disease. *Surg. Gynec. & Obst.*, **79**:359-367 (October) 1944.

4. Julian, O. C.; and Shabert, E. J.: Lumbar sympathectomy in peripheral vascular disease. *Arch. Surg.*, **61**:804-809 (November) 1950.

5. Kinmonth, J. B.: Thromboangiitis obliterans; results of sympathectomy and prognosis. *Lancet*, **2**:717-719 (Nov. 6) 1948.

6. Manoil, L.: Review of thromboangiitis obliterans. *Arizona Med.*, **6**:24-28 (June) 1949.

7. Roth, R. R.: Lumbar sympathectomy in treatment of peripheral vascular diseases with case report of results in Buerger's disease. *Mississippi Doctor*, **24**:218-222 (January) 1947.

8. Shumacker, H. B., Jr.: Sympathectomy in treatment of peripheral vascular disease. *Surgery*, **13**:1-26 (January) 1943.

9. Silbert, S.: Treatment of thromboangiitis obliterans. *Hebrew M. J.*, **1**:155, 1942.

10. De Takats, G.: Diagnosis and management of Buerger's disease. *Postgrad. Med.*, **3**:185-191 (March) 1948.

11. Freeman, N. E.: Diagnosis and treatment of thromboangiitis obliterans in vascular centers of army general hospitals. *Am. Heart J.*, **33**:332-340 (March) 1947.

12. LaTona, S. R.; and Le Fevre, F.: Thromboangiitis obliterans; summary of recent trends and treatment. *Cleveland Clin. Quart.*, **15**:12-17 (January) 1948.

13. Messinger, W. J.; Goodman, E. N.; White, J. C.: Treatment of thromboangiitis obliterans. *Amer. J. Med.*, **6**:168-176 (February) 1949.

14. Cooper, F. W., Jr.; and Harris, M. H.: Sympathectomy in treatment of thromboangiitis obliterans. *South. Surgeon*, **14**:70-81 (February) 1948.

CLINICAL INVESTIGATION OF TABLET
NEOHYDRIN, A NEW ORAL
MERCURIAL DIURETIC

GEORGE H. FINCH, M.D.
DES MOINES

MUCH EFFORT has been made in recent years to produce a satisfactory, safe, effective oral mercurial diuretic. The organic chemist's research has been directed toward perfecting an oral mercurial diuretic which would either completely eliminate intravenous and intramuscular mercurial injections in chronic congestive cardiac failure patients, or limit the use of parenteral mercurials to the acute congestive cardiac patient. The concept is excellent but practical results have been far from satisfactory.

It now appears that Neohydrin, an oral mercurial diuretic, will either supplant the parenteral mercurial entirely, or markedly decrease the number of parenteral injections.

PHARMACOLOGY OF NEOHYDRIN (TABLET 1347 EX)

Pharmacological investigation of this drug has been reported.^{1, 2} Handley, Chapman and Moyer¹ evaluated diuretic potency, mercury excretion and chronic and cardiac toxicity in dogs receiving Neohydrin intravenously. Greiner, Gold, *et al.*² assayed in humans with congestive failure the dose-response to Neohydrin orally against the dose-response to meralluride intramuscularly. The animal studies¹ revealed the mercury excretion rate of Neohydrin to be comparable to that of meralluride. There was no essential difference between

these two drugs in regard to chronic toxicity, and the acute cardiac toxicity of Neohydrin was less than that of meralluride. Diuretic potency of the latter drug was more than tripled by intravenous Neohydrin.

Neohydrin orally, by dose comparison, attained a diuretic potency equal to 71 per cent of injected mercurhydrin.² These dose-response studies further revealed that, in general, the oral mercurial diuretics currently available possess no more than one-eleventh of the effectiveness obtainable by parenteral injection. Uniquely, however, Neohydrin orally achieves more than one-fourth its effectiveness parenterally. The therapeutic promise implicit in this singularly maintained ratio of oral to parenteral effectiveness has been borne out by results in the present study.

The present series is comprised of twenty patients, all with acute congestive cardiac failure.

Table 1

| CASE | PATIENT'S INITIALS | AGE | SEX | ETIOLOGY |
|------|--------------------|-----|-----|---|
| 1 | L. S. | 72 | F | Essential Hypertension |
| 2 | D. M. | 50 | F | Essential Hypertension |
| 3 | J. R. | 53 | M | Essential Hypertension |
| 4 | F. E. W. | 47 | M | Acute Myocardial Infarction, Feb., 1952 |
| 5 | M. M. | 51 | F | Essential Hypertension |
| 6 | J. B. U. | 53 | M | Arteriosclerotic Heart Disease |
| 7 | A. E. S. | 76 | F | Essential Hypertension |
| 8 | S. G. | 64 | M | Myocardial Infarction, 1942. Arteriosclerotic Heart Disease |
| 9 | G. B. | 49 | M | Essential Hypertension |
| 10 | W. C. | 78 | M | Essential Hypertension |
| 11 | H. K. | 32 | F | Essential Hypertension |
| 12 | J. W. | 68 | M | Essential Hypertension |
| 13 | H. P. | 72 | F | Essential Hypertension |
| 14 | G. F. | 68 | M | Essential Hypertension |
| 15 | R. P., Jr. | 15 | M | Rheumatic Fever Heart Disease |
| 16 | S. P. | 66 | M | Arteriosclerotic Heart Disease |
| 17 | M. B. | 58 | F | Essential Hypertension Diabetes Mellitus |
| 18 | M. C. J. | 58 | M | Myocardial Infarction, 1950 |
| 19 | J. M. | 69 | M | Essential Hypertension |
| 20 | A. S. | 60 | M | Rheumatic Heart Disease |

CASE HISTORIES

Case 1. Mrs. L. S., referred by Dr. J. E. Dyson, was originally examined at her residence March 13, 1950. She was diagnosed as having essential hypertension and chronic auricular fibrillation. Her history indicated early rheumatic heart disease; mitral stenosis. Heart action was well compensated. On March 26, 1950, the patient had an acute posterior lateral myocardial infarction. She had her first bout of acute congestive cardiac failure in November, 1951. Response to two-gram sodium diet, digoxin and mercurhydrin was satisfactory. After hospital discharge the patient neglected to follow her diet and medication instructions. Three weeks later, December 1951, she developed a recurrence of cardiac congestive failure. Again there was a satisfactory response to diet, digoxin and mercurhydrin (parenteral). On Jan. 31, 1952 examination indicated the third recurrence of cardiac congestive failure, and acute pulmonary infarction. The patient's response to diet, digoxin, and mercurhydrin (parenteral) was negligible. Ad-

ministration of ammonium chloride for three days, followed by mercurhydrin tablets (with ascorbic acid), gave but minimum diuresis. Other mercurial diuretics, oral and parenteral, were then used with unsatisfactory results. The patient was hospitalized for about a month. In March 1952, when she was again ambulatory, she was treated with mercurhydrin rectal suppositories. The diuresis was apparently satisfactory. On May 14, 1952 examination revealed the fourth recurrence of a chronic cardiac congestive failure. The patient was started on Tablet 1347 Ex (Neohydrin). Forty-eight hours later the patient remarked, "Last night was the first time I have been able to lie down and sleep all night for a week." Her response to this oral mercurial medication of one tablet three times daily was excellent. The daily urine output was satisfactory and there were no toxic reactions. Symptomatology was reduced and there were no longer objective findings of chronic congestive cardiac failure recurrence. The patient re-entered the Iowa Lutheran Hospital on May 26, 1952 because of an acute anxiety syndrome unrelated to her heart disease. Both the cardiac and anxiety syndromes were apparently following a satisfactory clinical course. On June 3, 1952, the patient lapsed suddenly into unconsciousness with a generalized cyanosis, the result of an acute ventricular fibrillation, and expired.

In reiteration, during the period between May 14, 1952 and June 3, 1952, the patient had not experienced a recurrence of congestive cardiac failure. The blood chemistry: B.U.N., blood sodium, hemograms, urinalysis; all were within the normal limits. There were no changes in the electrocardiograms. The graphs revealed (1) left ventricular hypertrophy, (2) chronic auricular fibrillation, (3) remnants of a previous posterior-lateral myocardial infarction.

Case 2. Mrs. D. M., a 50 year old woman (see figure 2), was examined at Mercy Hospital on June 2, 1952. The patient's medical history was negative for rheumatic fever, chorea or diphtheria. The family history was negative for rheumatic fever.

This patient had been hypertensive for years. Chief complaints were (a) dyspnea, (b) lower left chest distress of 2 days duration. The positive physical findings were (1) radial arteries, 3-plus (1 to 4 basis) arteriosclerotic, (2) sacral and ankle edema, 2-plus (1 to 4 basis), (3) diastolic, apical murmur, (4) a questionable 2-plus (1 to 6 basis) apical systolic murmur, not transmitted, (5) liver margin, two fingers below right costal margin, (6) lungs bilateral basal rales, (7) when hands were elevated above the patient's head, the veins collapsed. Clinical impression: (1) essential hypertension, (2) hypertensive heart disease, (3) chronic glomerulonephritis; secondary to the essential hypertension, (4) chronic congestive cardiac failure, (5) mitral stenosis, (6) auricular fibrillation. The patient was placed on Neohydrin

on May 23, 1952. She received three tablets daily. Mrs. M. had previously received three I.M. (1 cc.) mercurhydrin injections as indicated by figure 2, but none after June 8. A sodium amytal test on June 14 definitely established essential hypertension. The possibility of pheochromocytoma as an etiological factor of the patient's hypertension was eliminated. The patient was discharged from the Mercy Hospital on June 22, 1952. From that date Neohydrin was administered in a dose of two to three tablets daily (20 to 30 mg. of mercury). The patient has not experienced any toxic reactions to Neohydrin and there has been no recurrence of congestive cardiac failure. The last physical examination on July 27, 1952 was negative. The patient is also receiving .25 mg. of digoxin daily, five days each week. No attempt was made to control the dietary sodium intake since her discharge from the hospital. This patient seems to demonstrate the efficacy of Neohydrin in chronic congestive cardiac failure.

Case 15. R. P., Jr., a 15 year old boy, entered Iowa Lutheran Hospital on July 12, 1952. There was a history of scarlet fever at an early age, complicated by acute rheumatic fever. He had a tonsillectomy three years ago. During the past ten years there have been numerous rheumatic fever recurrences. Physical examination revealed (1) no clubbing of fingers, (2) anemic nails, but no petechia, (3) many palpable lymph nodes (fingers and wrists), (4) mild conjunctivitis but no Osler nodes were observed in the conjunctivae or toes, (5) lungs clear; no basal rales, (6) heart—apex in the 6th I.C.S.; 14 cm. from the M.S.L. There was a systolic thrill over the apex and left ventricular hypertrophy. Two murmurs were heard at the apex; a harsh grade IV (1 to 6 basis) systolic murmur, with transmission to the left axilla. A grade II diastolic murmur was audible at the apex. The first sound at the apex was accentuated and systolic gallop rhythm was also present. The intensity of P^2 was greater than A^2 , revealing both a mitral stenosis and regurgitation, the latter predominating. Hepatic enlargement was definite; the liver below the right costal margin was palpated three fingers breadth. The spleen was easily palpated. There was no ankle edema, but a 1-plus (1 to 4 basis) sacral edema was present. A tentative diagnosis was established. It included (1) rheumatic heart disease, (2) acute cardiac failure, (3) possible subacute bacterial endocarditis. Blood pressure was 106/92 and the blood culture read negative.

The electrocardiogram (7-14-52) showed (1) first degree heart block, (2) sinus tachycardia, (3) right auricular hypertrophy, (4) left axis shift, (5) horizontal position of the heart, (6) transitional zone between V3 and V4, (7) left ventricular hypertrophy.

The therapy suggested was (1) 1 cc. mercurhydrin (I. M.) as initial dose. (2) Tablet Neohydrin, one tablet twice daily, given from second day.

Table 2
 MRS. DAISY M. ENTERED MERCY HOSPITAL DES MOINES, IOWA
 White Age 50 May 7, 1952

| Date 1952 | H ₂ O Intake cc. | Urine Output cc. | Blood Chemistry | Tablet Ex 1347 Ex | Mercury- drin 1 m. | Urinalysis | Blood Pressure | Digitalis 24-Hour Preparation Amount | Reaction to Tablet 1347 | Ankle Edema | Sacral Edema | Lungs | Comments |
|-----------|-----------------------------|------------------|------------------------------------|-------------------|-----------------------|--|---|---|----------------------------|----------------|-----------------|---------------------------|--|
| 5-7 | | | | | | | | One ampule Crystodigin 9:35 pm 1 IM | | | | | |
| 5-8 | | | | | | | 240/130 215/120 | Crystodigin 0.2 mg. 10 am & 6 pm | | | | | Penicillin with Dihydrostreptomycin every 6 hours |
| 5-9 | 2100 | 400?+ | Blood Urea Nitrogen 43.5 mg. | | | 4+ albumin sugar 0 1010 20+30 R.B.C. 100 to 200 W.B.C. Rare granular cast | 4 am 228/110 7 am 222/120 2 pm 210/120 | | | | | | |
| 5-10 | | | | | | 4+ albumin sugar 0 1015 2 to 4 R.B.C. 2 to 4 W.B.C. OCC granular cast | | Crystodigin 0.2 mg. 10 am & 6 pm | | | | | |
| 5-11 | | | | | | | | | | | | | Penicillin with Dihydrostreptomycin discontinued |
| 5-12 | 1150? | 800? | | | | | | | | | | | |
| 5-13 | | | | | | | 7 pm 202/122 11:30 am 196/100 | | | | | | |
| 5-14 | 400 | 350? | | | | | 7 am 212/114 | Crystodigin 0.2 mg. 2 pm | | | | | |
| 5-15 | | | | | | | | Crystodigin one ampule 1 pm | | | | | |
| 5-16 | | | | | | | 7 am 230/118 | | | | | | |
| 5-17 | | | | | | | 7 am 230/130 | Crystodigin one ampule 1 pm | | | | | |
| 5-18 | | | | | | | | | | | | | |
| 5-19 | 950 | 800+ | | | | | 7 am 200/118 7 am 230/134 Resp. 34 Pulse 112 | Crystodigin 0.2 mg. 8:30 am | | | | | |
| 5-20 | | | | | | | 6 am 228/112 Pulse 108 Resp. 36 | Crystodigin one ampule 1 IM (4 pm) | | | | | |
| 5-21 | | | | | | | 5 am 200/120 Pulse 110 Resp. 28 | | | 2+ | 2+ | Bilateral basal rales | |
| 5-22 | | | | | | | 7 am 214/134 Pulse 88 Resp. 28 | | | 2+ | 2+ | Rales both bases | |
| 5-23 | 1300 | 650? | Blood Urea Nitrogen 72 mg. | 3 Tablets | | | | | None | 2+ | 2+ | Basal rales both bases | |
| 5-24 | | | | 3 Tablets | | | 210/122 | | | 2+ | 2+ | Basal rales both bases | |
| 5-25 | | | | 3 Tablets | | | 220/130 | | | 2+ | 2+ | Rales left base | |
| 5-26 | 1100 | 350 | | 3 Tablets | | | 7 am 210/136 | Digoxin .25 mg. 12:45 pm & 6 pm | | 1+ | 2+ | Rales both bases | |
| 5-27 | 950 | 2400 | | 3 Tablets | | | 7 am 212/118 | Digoxin .25 mg. 10:00 am | | None | 1+ | Rales both bases | |

| | | | | | | | | | | | | | |
|------|------|-------|----------------------------------|--------------|-------|--|---------------------------------|-----------------------------|--|--|------|--|--|
| 5-28 | 1800 | 1000+ | | 3 Tablets | | 2+ albumin sugar 0 1015 50 to 60 W.B.C. (h.p.f.) 2 granular casts (h.p.f.) centrifuged spec. | 7 am 200/124 | | | | 1 + | Rales both bases | |
| 5-29 | 1175 | 1150 | Blood Urea Nitrogen 68 mg. | None | 1 cc. | 2+ albumin sugar 0 1004 ACC R.B.C. Many WBC (centrifuged) | 7 am 198/126 | Digoxin .25 mg. 2 pm. | | | 1 + | Rales both bases | Rhythm apparently (sinus)—not confirmed by E.C.G. |
| 5-30 | 1200 | 1250 | | 3 Tablets | | | 7 am 178/110 9 am 180/92 | Digoxin .25 mg. 10 am | | | 1 + | Bilateral rales but decreased loudness | |
| 5-31 | 800+ | 1300 | | 3 Tablets | 1 cc. | | 6 am 198/130 6:55 am 192/120 | Digoxin .25 mg. 10 am | | | 1 + | Basal rales al- most entire left lung, right lung base rales scanty | |
| 6-1 | 1100 | 1775 | | 3 Tablets | 1 cc. | | 6 am 194/120 | Digoxin .25 mg. 2 pm | | | 1 + | Improvement left chest rales | |
| 6-2 | 1250 | 1675 | Blood Urea Nitrogen 61 mg. | 3 Tablets | | | 6:30 am 190/114 | No Digoxin | | | None | No rales at base marked im- provement left lung rales | Marked improvement of objective find- ings of congestive failure. Allergic Dermatitis. Oxygen discontinued |
| 6-3 | 1100 | 1515 | | 3 Tablets | | 1008 negative | 6:30 am 150/90 | Digoxin .25 mg. | | | None | Few "crackles" in right base | Heart—Auricular Fibrillation |
| 6-4 | 1300 | 2000 | | 3 Tablets | 1 cc. | 1+ albumin 1007 2 to 4 R.B.C. (h.p.f.) | 7 am 170/50 | Digoxin .25 mg. | | | None | Clear | |
| 6-5 | | | | 3 Tablets | | | | | | | None | | |
| 6-6 | 1350 | 1650 | | 3 Tablets | 1 cc. | 1+ albumin 1003 No R.B.C. | 4 pm 190/100 | Digoxin .25 mg. | | | None | Clear | |
| 6-7 | 1750 | 1075 | | 3 Tablets | | Albumin trace 1004 | 11 am 204/110 | Digoxin .25 mg. | | | ↑ | ↑ | |
| 6-8 | | | | 3 Tablets | 1 cc. | | | Digoxin .25 mg. | | | ↑ | ↑ | Severe Cephalalgia |
| 6-9 | 950 | 600 | | 3 Tablets | | 3+ albumin 1008 OCC R.B.C. | 5:30 am 178/110 | Digoxin .25 mg. | | | ↑ | ↑ | |
| 6-10 | 1300 | 1025 | | 1 Tablet | | 2+ albumin 1008 No R.B.C. | | Digoxin .25 mg. | | | ↑ | ↑ | |
| 6-11 | 1500 | 1475 | | 3 Tablets | | | 11:30 am 220/130 | Digoxin .25 mg. | | | ↑ | ↑ | Cephalalgia continues to be severe |
| 6-12 | | | | 3 Tablets | | 2+ albumin 1006 No R.B.C. | 6 am 230/134 | Digoxin .25 mg. | | | ↑ | ↑ | Discontinued blocks at head of bed |
| 6-13 | | | Blood Urea Nitrogen 68 mg. | 3 Tablets | | 2+ albumin 1006 microscopic negative | 6:45 am 226/126 | Digoxin .25 mg. | | | ↑ | ↑ | Heart—Normal sinus rhythm con- firmed 6-11-52 by E.C.G. |
| 6-14 | | | | 3 Tablets | | 2+ albumin 1007 No R.B.C. | 8:30 pm 220/110 | | | | ↑ | ↑ | Sodium Amytal test. Results— positive—see case history |
| 6-15 | | | | 2 Tablets | | | | Digoxin .25 mg. | | | ↑ | ↑ | Out of bed frequently during past three days—Cephalalgia so severe— Phlebotomy 275 cc. 6-14-52 at 5:30 pm |
| 6-16 | | | | 2 Tablets | | | | | | | ↑ | ↑ | Benodaine Hydrochloride (Pheochromocytoma test) 6-15-52—negative |
| 6-17 | | | | | | | | Digoxin .25 mg. | | | None | Clear | Patient discharged from hospital |

Oxygen (Nasal Catheter) given continuously May 9 to June 2, 1952

Head of bed (Elevated by nine inch blocks) 5-21-52

Sodium diet (two grams) started 5-27-52

V.D.R.L. Flocculation Test (5-8-52) Negative

Kline Flocculation Test (5-8-52) Negative

Hemograms
5- 8-52 3,600,000 = R.B.C. 10.45 Gms. Hemoglobin
19,750 = W.B.C. Polys 92% 8% Lymph

5-13-52 3,050,000 = R.B.C. 8.60 Gms. Hemoglobin

5-19-52 3,700,000 = R.B.C. 11.55 Gms. Hemoglobin

Additional Therapeutic Drugs

Second 0.048 mg. 10:00 a.m. and 3:00 p.m. (Daily) from 5-9-52

Diet
Soft diet from 5-8-52 to 5-9-52

Salt free diet from 5-9-52 to 5-26-52

Low sodium (2 grams) diet started 5-27-52

History described under case 2.

(3) penicillin or aureomycin. (4) after diuresis was established, to slowly digitalize the patient.

Table 3

| Classification of Patients | |
|----------------------------|----|
| Ambulatory Patients | 13 |
| Hospital Patients | 7 |

(5) raise head of bed on nine inch blocks, with no elevation of head rest.

LABORATORY TESTS

- (1) Hemograms
- 7-13-52 RBC = 4,000,000; HB = 13 Gm. WBC = 11,410; Polys 61%, Mono. 39%.
- 7-18-52 RBC = 4,180,000; HB = 12.5 Gm. WBC = 9,600; Polys 66%; Mono. 33%, Eosin 1%.
- 7-29-52 RBC = 4,140,000; HB = 12 Gm. WBC = 11,400; Polys 72%; Lymph 28%, Eosin 3%.
- (2) Urinalysis
- 7-13-52-Spec. Grav. 1008; Alb. = 0; Sug. = 0, Microscopic = negative.
- 7-18-52-Spec. Grav. 1030; Alb. = Heavy trace; Sug. = Faint trace, Microscopic Occ. WBC.
- 7-29-52-Spec. Grav. 1023; Alb. = Trace; Sug. = 0; Microscopic = Occ. WBC and granular cast (centrifuged spec.).
- (3) Chest x-ray (7-13-52)
- The cardio-thoracic ratio is 60 per cent. There is a marked generalized cardiac hypertrophy with a shortening shadow of the ascending aorta and a small aortic arch. The generalized haziness of both lung fields is consistent with the result of compensatory failure. No acute densities were seen.

COMMENTS

The efficacy of Tablet Neohydrin was established in this case. The patient received only one cc. mercurhydrin (parenteral), on July 15, 1952. Toxicity of digitalis manifested itself on July 26, 1952, but there were no untoward reactions to Neohydrin. The mercurial tablet was discontinued on July 29, 1952. There was a recurrence of the chronic congestive cardiac symptoms, and Neohydrin was resumed on July 31, 1952. This final conclusion was written on August 4, 1952. The patient's present maintenance dose is two tablets of Neohydrin (20 mg. mercury) daily. The heart failure rapidly disappeared when the oral mercurial diuretic was resumed. Digitalis has been unnecessary since July 26, 1952. The patient was not placed on a low sodium diet. Early discharge from the hospital is anticipated.

Case 5. Mrs. M. M., a 51 year old woman, has been an out-patient at Broadlawns General Hospital since July 30, 1949. She was confined in the hospital on one occasion from March 7, 1950 to

March 30, 1950. Her diagnosis was (1) essential hypertension, (2) chronic auricular fibrillation, (3) hypertensive heart disease, (4) acute congestive failure. The patient responded to a low sodium diet, purodigine and mercurhydrin (parenteral). The chest x-ray (March 14, 1950) revealed "enlarged heart—evidence of pulmonary edema." A gall bladder functional test (July 7, 1949) revealed a normal functioning gall bladder. Kline and Komer tests (March 12, 1950) were negative. Urinalysis (dating from Nov. 15, 1951) has been negative. Frequent electrocardiograms since July 30, 1949 have consistently shown (1) chronic auricular fibrillation, (2) horizontal position of heart, (3) left ventricular hypertrophy. The medication during 1950 included (1) purodigine, 0.1 mg. (daily), (2) mercurhydrin, 2 cc. (parenteral) on June 24; July 15, 29; August 9, 26; September 2, 23, 28; October 10, 26, and November 9. On Sept.

R. P., Jr.

Table 4

Case 15

| DATE | WATER INTAKE | URINE OUTPUT | COMMENTS |
|---------|--------------|--------------|--|
| 7-13-52 | 600 cc. | 800 cc. | Sedimentation rate 45 mm. (1 hour) |
| 7-14-52 | 550 cc. | 950 cc. | Blood culture—negative |
| 7-15-52 | 250 cc. | 1900 cc. | One cc. mercurhydrin (parenteral) |
| 7-16-52 | 1325 cc. | 1475 cc. | Blood sodium 300 mg. Aureomycin discontinued because of nausea and vomiting |
| 7-17-52 | 1200 cc. | 1000 cc. | Neohydrin twice a day. Started July 16, 1952 |
| 7-18-52 | 1255 cc. | 750 cc. | 4,180,000 RBC. 12.5 Hemoglobin, 9600 WBC. 66% Polys, 1% Eosin, 33% Lymphs |
| 7-19-52 | 1200 cc. | 1130 cc. | Crystodigin (0.2 mg.) twice a day started |
| 7-20-52 | 950 cc. | 1250 cc. | Neohydrin increased to three tablets daily |
| 7-21-52 | 1250 cc. | 1150 cc. | Penicillin discontinued. ACTH (20 mg.) every 8 hours started |
| 7-22-52 | 1700 cc. | 965 cc. | |
| 7-23-52 | 350 cc. + | 1600 cc. | Urine-Spec. Grav. 1019. Negative for Alb. & Sug. Occ. WBC. Rare RBC |
| 7-24-52 | 1050 cc. | 1140 cc. | Ewarts sign positive (posterior pericarditis) Neohydrin dose reduced to 2 tablets daily |
| 7-25-52 | 1600 cc. | 1240 cc. | Sedimentation rate 28 mg. (one hour). Decreased crystodigin to 0.2 mg. a day |
| 7-26-52 | 825 cc. | 1075 cc. | B.P. 126/74, Pulse 84. Patient had some visual disturbances. Premature systoles were present. Crystodigin discontinued |
| 7-27-52 | 650 cc. | 720 cc. | Lungs clear. Neohydrin reduced to one tablet daily |
| 7-28-52 | 1315 cc. | 800 cc. | No subjective signs of pericarditis present. There has been no fever since July 21, 1952 |
| 7-29-52 | 1365 cc. | 325 cc. | Neohydrin discontinued |
| 7-30-52 | 1220 cc. | 700 cc. | B.U.N. (7-29-52) 13.00 Gms. Sedimentation rate 29 mm. Up in chair 20 minutes. Patient again instructed to drink more water |
| 7-31-52 | 1370 cc. | 700 cc. | Neohydrin resumed 1 tablet T.I.D. |
| 8- 4-52 | | | Neohydrin increased to 2 tablets daily. Patient will be indefinitely maintained on this dosage |

6, 1951, the patient was placed on mercurhydrin tablets (with ascorbic acid). Blood pressure was 160/90 on Sept. 20, 1951. Readings between June 24, 1950 and Sept. 6, 1951 were within the normal

limits. However, between Sept. 6 and 20, 1951, three attempts with this oral mercurial diuretic failed. On each occasion the patient exhibited toxic symptoms: nausea, vomiting and diarrhea. The tablet was discontinued and mercuhydrin (2 cc.) I.M. was resumed on Nov. 15, 1951.

Additional follow-up notes:

Table 5

| DATE | WEIGHT | BLOOD PRESSURE | ADDITIONAL |
|---------|--------|----------------|---|
| 5- 2-52 | 134½ | 154/90 | 2 cc. mercuhydrin I.M. |
| 5-23-52 | 142½ | 158/96 | 2 cc. mercuhydrin I.M. |
| 5-24-52 | 142 | | Patient was started on three Neo-hydrin tablets daily |
| 5-26-52 | 140 | | |
| 5-28-52 | 138 | | |
| 6- 4-52 | 138½ | | |
| 6-16-52 | 136 | | |
| 6-27-52 | 137 | 126/82 | Changed to two 1347 Ex Tablets daily |
| 6-29-52 | 140¼ | 128/72 | Pulse 80 |

The patient's lungs were clear; the heart revealed a chronic auricular fibrillation. The patient noticed a marked decrease in kidney output since June 27, 1952. In the period between May 24 and June 27, 1952 the kidney output, measured at irregular intervals, was over three quarts in a given 24 hour period. The patient definitely believed mercuhydrin (2 cc.) I.M. was less effective than the three tablets of 1347 Ex given daily. She also believed the diuresis was greater with oral mercurial (Neohydrin) than with mercuhydrin (I.M.).

This patient has had no intramuscular mercurial diuretics since May 23, 1952. Tablet Neohydrin was started on May 24 I.T.I.D. The clinical response has been satisfactory. There have been no sodium restrictions since May 24. There were no toxic symptoms. This case suggests the effectiveness of Tablet Neohydrin.

Case 8. S. G., a 64 year old man, had an acute anterolateral myocardial infarction in 1942. There were no complications until the spring of 1951. The patient had two bouts of acute congestive cardiac failure which required hospitalization. The last hospital residence was in November 1951. Since then he has been treated as an ambulatory patient. He was placed in a low sodium diet (2 grams) upon hospital discharge (November 1951) but failed to follow the restrictive schedule. After his hospital release mercuhydrin (2 cc.) I.M. was given at ten day intervals from Dec. 1, 1951 to May 5, 1952.

Additional follow-up notes:

Table 6

| DATE | WEIGHT | REMARKS |
|---------|--------|---|
| 5-10-52 | 162½ | Patient complained of marked coughing, shortness of breath. Lungs—bilateral basal rales. Sodium dietary restrictions discontinued. Digoxin 0.25 mg. daily. Patient was started on Neohydrin Tablet I.T.I.D. |
| 5-13-52 | 163 | |
| 5-14-52 | 162¾ | Urine negative, spec. grav. 1015. |
| 5-15-52 | 163¼ | Urine negative, spec. grav. 1020. |
| 5-19-52 | 163½ | Patient complained of cough starting "as soon as he lay down." Lung examination revealed basal rales, right lower base (pos- |

| | | |
|---------|------|---|
| 5-20-52 | | teriorly) extending to lateral side of chest. Patient was given one cc. mercuhydrin, I.M. Temperature 98. Urine negative. |
| 5-21-52 | 160½ | Tablet Neohydrin increased to three a day. Patient again complained of cough. Sat up in a chair most of the night. Sleep very irregular. Examination of lungs: clear, no rales. |
| 5-23-52 | 160½ | Patient said he had a better night's sleep; did not cough much. Lungs clear. |
| 5-26-52 | 161 | Slept well, little coughing. |
| 5-27-52 | 160 | Pulse 72, B.P. 126/66. No nausea, vomiting or diarrhea. Appetite sluggish past two days. All right today. |
| 5-28-52 | | Tablet Neohydrin was decreased to one tablet daily. |
| 5-31-52 | | Pulse 80. Lungs—clear, no rales. Cardiac rhythm normal. B.P. 124/70. |
| 6- 3-52 | 159½ | Normal heart rhythm. Lungs—clear, no rales. B. P. 128/64. Urinalysis, Spec. Gravity 1014. No albumin or sugar. Microscopic, negative. |
| 6-23-52 | 160 | Pulse 84. Lungs clear. Edema, ankles—negative, but sacrum was one plus (1 to 4 basis). Slept well. No nocturnal dyspnea. Tablet Neohydrin increased to two daily. No change in the Digoxin 0.25 mg. (daily), except given five days weekly. |
| 7-16-52 | 162 | Sleep has been good since June 23, 1952. Heart normal rhythm. Lungs clear. No sacral or ankle edema. No change in medication since June 23. |

Comments—The Neohydrin maintenance dose in this case was 2 tablets daily. The patient exhibited no intolerance to 20 milligrams of mercury per day. He has had no mercuhydrin (I.M.) since May 19, 1952.

Case 4. F. E. W., a 49 year old man, had an acute anterolateral myocardial infarction Feb. 18, 1952. His coronary convalescence course was smooth and uncomplicated.

Follow-up notes. July 8, 1952. Patient said he had been coughing, particularly at nights, for past two-or three weeks. The cough usually woke him from sleep about one or two a.m. He would get out of bed because of shortness of breath. The patient had dyspnea for the past four nights. On this date he woke up at 1:30 a.m. with severe dyspnea. He had to sit up in a chair to breathe. About 3:00 a.m. he took a codiene sulphate tablet (.065 mg.). He had no sleep (in chair) until 5:45 a.m.; then he slept until 6:15 a.m. He reported to work at 8:30 a.m. The patient was examined July 8, 1952. His weight was 163 pounds, an 8 pound increase since the month before. There was no ankle or sacral edema. Blood pressure was 108/70. The heart revealed a bigeminy rhythm, but no murmurs. Lungs showed bilateral basal rales. There was no evidence of peripheral circulatory failure. The electrocardiogram impression: (1) bigeminy rhythm, (2) occasional premature nodal systole, (3) heart in the horizontal position, (4) transitional zone between V3 and V4, (5) left ventricular hypertrophy, (6) the only remaining remnants of the previous myocardial infarction were a negative T wave in lead one, and a negative T in a V6. The urinalysis was negative.

Clinical impression: acute congestive cardiac failure. Medication included (1) digoxin, 0.25 mg., three times a day for three days, followed by same dosage twice a day for two days. The maintenance dose 0.25 mg. was started on the sixth day. (2) No sodium dietary restrictions. (3) Tablet Neohydrin, one I.T.D.

The patient was advised to remain home for four days. He was not confined to bed. He resumed

work at the end of the four day rest. Since July 14, 1952 F. E. W. has been an ambulatory patient. There has been no further time loss from his work.

Table 7

| DATE | WEIGHT | B. P. | PULSE | REMARKS |
|---------|--------|--------|-------|---|
| 7-11-52 | 157½ | 104/76 | 84 | Cardiac rhythm normal. Patient sleeps well. No coughing or shortness of breath. Urine spec. grav. 1022, negative for albumin and sugar. Microscopic specimen negative. |
| 7-17-52 | 155½ | 96/62 | 63 | Lungs were clear. Put patient on digoxin (25 mg.) daily for five days each week. Neohydrin reduced to two tablets daily (20 mg. mercury). |
| 7-25-52 | 157 | 82/64 | 54 | Lungs were clear, no rales. No peripheral edema was present. Digoxin was discontinued. The Neohydrin dosage was unchanged. |
| 7-28-52 | | | | The patient complained of nausea but not vomiting, and of diarrhea for the past two days. This was assumed to be reaction to neohydrin. The oral mercurial diuretic was immediately discontinued. |

TOLERANCE AND REACTIONS

Tablet 1347 Ex (Neohydrin) appears to be the least toxic of all the mercurial diuretics. Two patients experienced nausea but no vomiting or diarrhea their first day on Neohydrin. There was no recurrence of the nausea after the first day. Case 4 developed nausea and diarrhea, after 20 days of Neohydrin dosage. His daily mercury intake was 20 mg. for an 11 day period before symptoms developed. However, one tablet daily of Neohydrin was resumed on Aug. 1, 1952. This is the only case in my series that exhibited symptoms suggestive of intolerance. There was no basis for terming this a toxic reaction. Eighteen patients did not manifest any untoward symptoms. Case 2 had elevated blood urea nitrogens, but she exhibited no toxic response to Neohydrin. The oral mercurial diuretic Neohydrin had no deleterious effects upon the patients' blood or kidney picture.

DOSAGE

This series of 20 cases has established definite dosage criteria. The most effective dose in the early congestive cardiac failure patient was one tablet three times a day. However, in one case, four tablets daily were required for one week before diuresis had been completed. Then a reduction to three tablets daily was adequate. The maintenance dose of one tablet daily was reached in 16 days. One Neohydrin (10 mg. mercury) tablet daily appeared to be a reliable diuretic dose for 16 patients. In four cases Neohydrin was discontinued as soon as the "dry weight" had been established. These patients have now been on a two month "diuretic free regime." Obviously, it is impossible to speculate when Neohydrin will be resumed.

DIETS

There were no dietary restrictions in 19 patients

in this series; only one hospital patient was placed on a two-gram sodium diet. I have always thought the low sodium diet was an ideal hospital gesture. However, my experience with the congestive heart failure ambulatory patients has been unsatisfactory. For a number of years I thought we were giving fatuous dietary instructions to our decompensated cardiac patients. Tablet Neohydrin has been so effective in eliminating edema that I believe further dietary limitations appear to be unnecessary. Long ago some of us discerned the dangerous potentialities of low sodium diets in cardiac patients during the summer months. The safety margin between blood sodium depletion and acute hyponatremia is a very limited zone. Consequently, low sodium dietary restrictions may have hazardous possibilities. Neohydrin may well eliminate these risks.

CONCLUSIONS

History and follow-up notes were presented on six cases. The space factor being important, it was impossible to review completely the remaining 14 cases. Mercuhydrin (parenterally) was used in only three cases during the early treatment of acute congestive cardiac patients. Neohydrin (oral) was combined with the mercuhydrin parenteral injection in those three patients. However, once the patient had reached "dry weight" the Neohydrin tablets were used alone as the maintenance dose. Twelve patients are now receiving one tablet daily. One patient (case 15) is taking two tablets daily. It was unnecessary to use parenteral mercuhydrin in 17 patients to establish diuresis.

Tablet Neohydrin, in our opinion, is the most efficacious oral mercurial diuretic available for the chronic congestive cardiac failure patient. It also is of economic benefit to the patient.

BIBLIOGRAPHY

1. Handley, C. A.; Chapman, D.; and Moyer, J. H.: Some pharmacological properties of three new mercurial diuretics. *Proc. Soc. Exper. Biol. & Med.*, 78:433-437 (November) 1951.
2. Greiner, T.; Gold, H.; et al.: Human assay of three new mercurial diuretic agents: a promising preparation for oral use. *Proc. Soc. Exper. Biol. & Med.*, 80:117-121 (May) 1952.

REGIONAL POSTGRADUATE COURSES
NEBRASKA STATE MEDICAL ASSOCIATION

DATE: November 17 to 22, 1952
TOWNS:
Scottsbluff, Nov. 17, Lincoln Hotel
North Platte, Nov. 18, Pawnee Hotel
McCook, Nov. 19, Keystone Hotel
Grand Island, Nov. 20, Yancey Hotel
Norfolk, Nov. 21, Madison Hotel
Beatrice, Nov. 22, Paddock Hotel
TIME: 1:30 to 9:30 p. m.
PROGRAM: Heart, Cancer, Pediatrics, Chest Diseases and Hematology (Same program at each meeting)
SOCIAL HOUR (complimentary) and DINNER
NO REGISTRATION FEE
Reservations should be made with the Nebraska State Medical Society office, Lincoln.

State University of Iowa
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

May 21, 1952

SUMMARY OF CLINICAL RECORD

THIS PATIENT'S record covers a period of 19 years. She was first admitted on September 6, 1932, when she was 47, and died in the hospital on August 10, 1951 at 66. Her illness began in November, 1931 with dizziness which was momentary. It usually appeared with a change of position, particularly when she rolled over in bed. Her physician told her that she had high blood pressure and prescribed a diet which restricted meat and starchy foods. No improvement followed. Six months later she again consulted her doctor. At this time glycosuria was discovered. Questioning revealed excessive thirst, weight loss of 30 pounds, and nocturia of severe degree. Additional pertinent facts in the history were: No member of the family had ever been known to have diabetes. She was married but never had been pregnant. Menses had begun at the age of 15 and had been normal except for the previous year, when some irregularity and diminution in discharge had been noted. During this period she experienced some hot flashes. Her weight had averaged 225 pounds for some years. She was 5 feet, 5 inches tall. She noted some shortness of breath on climbing stairs.

Physical examination revealed these abnormalities: obesity, bilateral incipient cataracts and "diabetic retinitis;" a small nodule in the isthmus of the thyroid, an accentuated aortic second sound, elevation of blood pressure to 160/100 and redness and excoriation of the external genitalia. The pulses in the feet were palpable and normal. The urine had a specific gravity of 1.015 and contained a trace of sugar, but no albumin or hemoglobin. Microscopic examination of the urine revealed nothing. Monilia grew on culture of the vaginal exudate.

Treatment was instituted as follows: Diet—protein, 60 grams; carbohydrate, 60 grams; fat, 210 grams, calories, 2,370. Insulin—regular, 15 units before breakfast and 9 before supper. The postprandial blood sugar dropped from 289 mgm. per cent to 176, and the urine became sugar free. The patient was instructed in the above regimen and discharged.

In the next four years she visited the Medical Out Clinic six times. She did not follow her diet well and tested the urine infrequently. When tests were run, glycosuria was usually present. She varied the insulin dosage daily according to how she felt, taking from 5 to 12 units before each meal. Her weight remained at about 200 pounds. During this period menstruation ceased. No new physical findings appeared except varicosities on the left leg. The blood pressure remained at 150/90.

May, 1936: A uterine curettage was done because of vaginal bleeding. The tissue removed was normal. She was given a diet containing 60 grams protein, 106 grams carbohydrate, and 164 grams fat (2,140 calories). The insulin dosage was increased to 35 units before breakfast and 20 before supper. She was checked in December, 1936, complaining of frequent insulin shocks and almost constant glycosuria. Dietary reinstruction was given and the insulin dosage was reduced.

February, 1939: On a visit to the Medical Out Clinic, the patient revealed that she was not following her diet, she was taking 15 to 20 units of insulin before each meal and was experiencing frequent shocks. Physical examination showed a marked diabetic retinitis. The blood pressure was 128/75 and all peripheral pulses were palpable. A diet containing 60 grams protein, 106 grams carbohydrate, and 126.5 grams fat (1,802 calories), and regular insulin in a dosage of 25-10-15 were advised.

June, 1940: The patient had not adhered to her diet and was taking 12 to 15 units of insulin twice daily. Urine tests had consistently shown sugar in quantity. On June 6 upper abdominal cramping pain became noticeable. Morphine was administered which failed to relieve the pain and was followed by vomiting. She was brought to the hospital unconscious, flushed and dehydrated. Respiration was of the Kussmaul type and the expired breath carried the odor of acetone. The urine showed markedly positive tests for sugar and acetone. The blood sugar was 685 mgm. per cent, the CO₂ combining power 14 volumes per cent, the urea nitrogen 42 mgm. per cent and the creatinine 2.3 mgm. per cent. She made a good recovery under treatment and was discharged on the 14th hospital day on previous diet and regular insulin in a dosage of 55-10-15. During this hospitalization no new physical abnormalities were discovered.

In August, 1940, all her teeth were removed because of pyorrhea alveolaris. In January, 1941, she was seen in the Medical Out Clinic complaining of shortness of breath and a non-productive cough. Her diabetes had been under good control. Body weight was 192 pounds. The heart was normal in size and there was no evidence of cardiac failure. The blood pressure was 160/100, and an electrocardiogram was normal.

SECOND DECADE OF DISEASE

November, 1942: The patient had followed her diet but was taking insulin in an irregular fashion in amounts from 6 to 20 units before each meal, depending upon the amount of glycosuria. Two weeks before admission the glycosuria had increased markedly and nausea and vomiting appeared. Two days before admission she had stopped taking insulin. She entered the hospital in mild acidosis. Physical examination showed the heart to be enlarged. The blood pressure was 130/60. The brachial arteries were sclerotic. Diabetic retinitis was present. There was a trace of

albumin in the urine. X-ray examination of the chest revealed a D. R. of 0.62. An electrocardiogram showed a left axis deviation and flat T waves. She was treated for acidosis and discharged on the previous diet, with an additional 100 grams of carbohydrate. The insulin dosage suggested was regular insulin, 25-10-15.

January, 1943: The patient had remained on the diet, but because of frequent insulin shocks had fallen into her old habit of juggling the insulin dosage according to the amount of glycosuria. She had become markedly short of breath and had developed swelling of the legs and abdomen. Physical examination showed the heart to be enlarged. The blood pressure was 130/95 and the peripheral vessels were sclerotic. There were rales in both lung bases. There was pitting edema of the legs, the abdominal wall and the chest wall to the eighth rib. The liver was enlarged and tender. The urine contained a trace of albumin but no sugar. An electrocardiogram showed left axis deviation and inverted T waves in leads II and III. She improved with treatment, losing 38 pounds of edema fluid. She was discharged on her previous diet with salt restriction, digitalis leaf grains $1\frac{1}{2}$, and regular insulin 15-5-10.

October, 1946: The patient had not adhered to her diet and was taking 15 units of insulin before each meal. Glycosuria was present constantly and insulin shocks were frequent. She remained free of cardiac symptoms for three and one half years; then she began to have some exertional dyspnea and substernal pain. She was taking digitalis leaf now and then as she felt in need of it. She was still obese, weighing 193 pounds. The heart was large, the D. R. being 0.57. There was a trace of edema over the shins, and the blood pressure was 190/100. The urine contained no albumin. The electrocardiogram showed digitalis effect. The previous diet was not changed, and a 3:1 regular protamine insulin mixture with a dosage of 30 units was prescribed. She was seen again in February, 1947, and seemed to be doing quite well on this regimen.

August, 1949: The patient was admitted in coma. There was no essential change in her physical state. She was discharged on a 1,000 calorie diet with 70 grams protein and 150 grams carbohydrate. Insulin was changed to regular in a dosage of 25-15-20.

December, 1949: The patient had lost weight to 172 pounds but was having frequent attacks of hypoglycemia. She had reduced the insulin dosage to 10 units before each meal. She was having mild exertional dyspnea but no other symptoms referable to the heart. The heart was enlarged (D. R. 0.65), there were rales in the lung bases and the blood pressure was 120/80. Pulsation was felt in all the vessels of the feet. The electrocardiogram showed an incomplete left bundle branch block. A marked diabetic retinitis was present. She was regulated on a diet containing 100 grams protein, 200 grams carbohydrate and 1,800 calories in a 1/5,

2/5, and 2/5 distribution, with a mid-afternoon lunch. Globin insulin (25 units) was given before breakfast.

April 1951: The patient had gotten along quite well until about two months before this admission. At that time she had developed nausea and vomiting. She was admitted to another hospital, where an attempted gall bladder series failed because of an accentuation of the vomiting and the resultant onset of acidosis. After recovery from this episode, she was placed on NPH insulin in a dosage of 60 units, which was later reduced by half. She was admitted to University Hospitals because of continuation of the vomiting. The positive physical findings were: diabetic retinitis, enlarged heart, blood pressure 140/70, absent pulses in the feet, obesity (177 pounds), dehydration and epigastric tenderness. The urine contained sugar and acetone. The blood sugar was 460 mgm. per cent and the CO_2 combining power was 41 volumes per cent. She was given 1,000 ml. of normal saline and 40 units of insulin. This was followed four hours later by 1,200 ml. of normal saline and 800 ml. of 5 per cent dextrose solution with 60 units of insulin. A 4-plus reaction for sugar on test of the urine was obtained before this latter dose of insulin was given. Six hours later the patient became restless and threw her arms about. The urine at that time was free of sugar. Forty grams of dextrose were given intravenously. Four hours later she appeared confused and did not respond to questions. A right facial weakness was apparent, and the right arm was flaccid. The urine contained sugar. The following day she developed weakness of the right leg and Babinski's sign on that side. Following this, she never responded except to painful stimuli and continued to have a right hemiplegia. Intravenous fluids were given for a few days and then a formula was administered through a polyethylene tube into the stomach. Pressure sores developed over the external maleolus of the left ankle, the sacrum and the right greater trochanter. The right foot and lower third of the leg became gangrenous. Amputation was considered and the patient was prepared for this procedure. However, on the 118th hospital day, she suddenly had a few convulsive movements and died.

SUMMARY OF NECROPSY FINDINGS

There was severe arteriosclerosis with extensive atheromatous change in the larger vessels and generalized arteriolosclerosis. Associated with the vascular lesions, there were multiple areas of both old and recent infarction in the brain, gangrene of the left leg, arteriolar and arterionephrosclerosis, hypertrophy and fibrosis of the myocardium. Terminal events were patchy pneumonia and decubiti over the sacrum and right trochanter.

NECROPSY DIAGNOSES

Diabetes mellitus (clinical).

Generalized arteriosclerosis and arteriolosclerosis.

Arteriolonephrosclerosis.

Multiple cerebral infarcts.

Myocardial hypertrophy and fibrosis.

Arteriosclerosis and thrombosis, left popliteal artery, with gangrene of leg.

Patchy bronchopneumonia.

CLINICAL DISCUSSION

Dr. Robert C. Hardin, Medicine: Dr. Forbes, would you show the series of x-rays?

Dr. Stephen A. Forbes, Radiology: The first film of the chest taken in 1942 shows the heart somewhat enlarged, but of non-specific contour. The Danzer ratio is 0.62. The lung fields are entirely clear.

A second film of the chest four years later shows the heart smaller in size but with some evidence of generalized enlargement. The Danzer ratio has decreased to 0.57. The lung fields are clear. There is no evidence of fluid at either base. On third examination a few months later there is increase in heart size, the Danzer ratio now being 0.65. Bronchovascular markings are coarsened throughout the lung fields, and engorged vessels are seen in both hilar areas. The appearance indicates cardiac enlargement and pulmonary congestion.

On the first of two films taken during the last month of the patient's life, cardiac enlargement and hilar congestion are again demonstrated. The last film, taken with the portable unit, also shows pulmonary congestion, though the degree is difficult to evaluate in the presence of respiratory motion of the patient during the time of exposure. Generalized enlargement of the heart is also again demonstrated, but accurate measurement is not possible on the short distance portable film.

Dr. Hardin: May we have the student opinion as to the diagnosis and the cause of death?

Junior Student: It was the opinion of the majority of the junior class that the primary diagnosis in this case was diabetes mellitus with complications. Two students voted for Kimmelstiel-Wilson's disease. Among the complications mentioned were hypertension, cholelithiasis, cardiac failure, coronary artery disease, generalized arteriosclerosis and arteriosclerosis obliterans. The majority of the class felt that death was due to a cerebral vascular accident, with three voting for coronary occlusion. Such things as septicemia, acidosis, and renal failure were discussed but not voted upon as causes of death.

Dr. Hardin: The clinical diagnosis by those people who saw the patient on the ward was essentially the same: the primary diagnosis, diabetes mellitus with complications, including generalized arteriosclerosis, cerebral arteriosclerosis, coronary arteriosclerosis, hypertensive cardiovascular disease and arteriosclerosis obliterans of the extremities. The cause of death was thought to be a cerebral vascular accident.

Dr. Warner, would you give the pathological findings?

Dr. Emory D. Warner, Pathology: This case was one of severe arteriosclerosis complicating long-standing diabetes. There was a very severe generalized arteriosclerosis everywhere. There was, in addition to the advanced atherosclerosis, thrombosis of the popliteal artery with associated gangrene of the lower extremity—gangrenous cellulitis of the foot and lower leg on that side. There were multiple areas of cerebral infarction, both old and recent. There were, however, no cerebral artery thromboses, nor was there any terminal cerebral hemorrhage. The lesions were multiple cerebral infarcts of all ages, from beginning softening to old cysts. The heart was hypertrophied. It weighed some 560 grams and was rather generally and symmetrically hypertrophied. Microscopically there was patchy fibrosis throughout the myocardium. There was no gross infarct nor was there any coronary occlusion, although advanced coronary sclerosis was present. There was, in addition to the gangrenous cellulitis of the leg, a patchy pneumonia, and there were decubiti as evidence of infection. She had a lot of arterial and arteriolar sclerosis of the kidneys, with the kidneys shrunken to 120 and 125 grams in size. There were multiple pitted scars, but none of the changes which are said to be characteristic of Kimmelstiel-Wilson's disease. The intercapillary glomerular sclerosis of this peculiar type was notably absent. I might also say that despite her age and her long-standing history of poorly controlled and uncontrolled diabetes, she had no gallstones or evidence of cholecystitis.

As to the terminal event, no vascular accident was found which would account for it in the sense of a massive cerebral hemorrhage, a cerebral artery thrombosis, a coronary occlusion or a pulmonary embolus. The cerebral infarcts were of all ages, and she may have had another area in the brain rendered ischemic beyond the point of tolerance by her atherosclerosis at that particular time. She had neither a hemorrhage nor a thrombosis as the terminal event.

I have a few slides. This first one is a section of brain, showing a large cyst, an old area of encephalomalacia where the brain has become nothing but a cyst, around the margins of which is loose glial structure in which there are myriads of phagocytes containing broken-down lipid. As you come into more solid brain substance, you see still-existent brain substance with beginning softening and breakdown with vacuolization, accumulation of fluid and fat and *beginning* accumulation of phagocytes. This was very extensive throughout the brain, in myriads of small areas rather than a single massive lesion at any one point.

The section of kidney reveals patchy scars in which the glomeruli are all hyalinized, completely knocked out by obliteration of the arterial supply to such an area as this. Some of the scars were bigger, some were smaller. Between the scars the

glomeruli show only very mild sclerosis of the arteriolar variety and no suggestions of the more or less specific lesion of Kimmelstiel-Wilson's disease.

This case brings up for discussion the interesting correlation between degenerative vascular disease and diabetes. I would like to point out to you that in the May issue of the *Archives of Pathology* there is a long article by Dr. Bell, retired Professor of Pathology at the University of Minnesota, which is an analysis of vascular changes in diabetes. He has studied a series of some 1,560 autopsies on diabetic cases exhaustively from the standpoint of vascular lesions and compared them to a control series of some 4,400 nondiabetic individuals coming to autopsy. These 1,560 diabetic autopsies in the department cover a considerable period of time, from 1910 to 1951. At first glance that would seem to negate to a certain extent any conclusions he might draw. The year 1910, of course, was pre-insulin and certainly "pre" any adequate understanding of diabetes. It should be pointed out, however, that less than five per cent of these cases were pre-insulin, and 70 per cent of this total group of autopsies were on patients who died in the last decade. Thus most of these cases were fairly recent and deaths dated since the days of so-called modern therapy and control of diabetes. It is a rather exhaustive analysis of the comparison of vascular disease in diabetics with nondiabetics coming to autopsy. Of his entire group, approximately half of the autopsy series (48.8 per cent) died of arteriosclerosis rather than of acidosis or coma or some other disorder incidental to the diabetes.

It was of some interest that 50 per cent of the patients who were under 40 at onset of the disease lived ten years or more, and that 47 per cent of those with the onset under 20 also lived ten years or more. In other words, there was very little difference in the rapidity of onset of diabetes in the group from 20 to 40 and from 0 to 20, a finding which surprised me a little. None of the patients who died under 20 years of age died of arteriosclerosis. Some of them had some arteriosclerosis, but many of them did not. In the group from 20 to 50 at the time of death, one-third died of arteriosclerosis, as compared with one-half of the entire group. Many of them, of course, were well beyond 50 at the time of death. In this series of some 750 diabetic individuals dying of arteriosclerosis, the order of arteriosclerotic lesions was: coronary, lower extremities, brain, kidney and congestive heart failure. Brain lesions refer to multiple infarction, as contrasted to massive cerebral hemorrhage which was toward the end as a cause of death in the arteriosclerotic group. Dissecting aneurysm on an arteriosclerotic basis was at the end.

Comparing the various age groups in these 1,560 diabetics and 4,400 nondiabetic cases, we find that of those dying between one and 20 years of age there were no cases of death from arterio-

sclerosis; in the 20 to 40 age group there were 22.8 per cent who died of arteriosclerosis in the diabetic group, 5.7 per cent in the non-diabetic group; in the 40 to 60 age group, 45 per cent of the diabetics died of arteriosclerosis and 22 per cent of the nondiabetics. In the 60 to 100 group, it is 56 per cent in the diabetics and 32 per cent in the nondiabetics.

Dr. Bell made one other rather interesting point. In referring to previous analyses that he had collected in the literature on 50,000 autopsies, he found the incidence of arteriosclerotic gangrene of the feet 40 times as frequent in diabetics as in nondiabetics. He did not comment on the sex relationship in that series.

Dr. Hardin: This case demonstrates the complications which follow in the case of long-standing diabetes. There are several things I would like to say a word or two about, before we speak of the complications. These revolve around the treatment of diabetes. This case is particularly interesting from that standpoint because we can see in the various diet and insulin orders the history of the treatment of diabetes. When this patient first came in in 1932 weighing 225 pounds, approximately 100 pounds overweight, she was placed on a diet of 2,370 calories, about 1,370 calories more than we would prescribe now. This was a high fat diet, had a minimal amount of protein—60 Gm., 60 Gm. of carbohydrate, and the rest, 210 Gm. of fat. That is the type of diet used at that time. She was placed on regular insulin because it was the only kind available then. As you follow the diet, you notice a gradual increase in the amount of carbohydrate and a gradual reduction in the amount of fat, until finally a diet of 270 Gm. carbohydrate, 70 Gm. of protein and very little fat was given. As she went along, a diet in which the protein was increased to 100 Gm. and the carbohydrate reduced to 200 Gm. was advised. All the known types of insulin were used, first regular insulin, then a mixture of regular and protamine zinc insulin, then globin insulin and finally NPH insulin.

There are just a few things we could say about the complications of diabetes. The patient with diabetes now does not die of acidosis. There are still deaths from that cause, but no longer is it an important one statistically. Deaths now occur from arteriosclerosis. Diabetics do not have arteriosclerosis in places other than found in patients without diabetes. They have arteriosclerosis of clinical significance in the brain, the heart, the kidneys and the legs, just as others do. It differs from that found in nondiabetic patients in that it occurs earlier, progresses faster and becomes more severe. It differs slightly in the site most likely to be attacked. About three-fourths of the people with diabetes who reach the age of 50 have renal arteriosclerosis, an incidence five times greater than in nondiabetics. The most common site for arteriosclerosis to strike the diabetic is in the coronary vessels of the heart. Just as Dr. Bell

noted in his recent article, others have commented that coronary thrombosis is the most common cause of death. There is another interesting fact about coronary thrombosis in diabetics. Not only is the frequency increased over that seen in non-diabetics, but the sex difference is obliterated. In other words, coronary thrombosis is much more common in men than in women, but with diabetics that difference disappears. The same is true of arteriosclerosis obliterans of the extremities. It is much more common in diabetics than in non-diabetics. Arteriosclerosis obliterans with gangrene is uncommon in women as compared to men nondiabetics, whereas in diabetics that difference is not present. It is interesting to hear that Bell found that gangrene is 40 times more common in diabetics than in nondiabetics, because other authors agree.

Can one prevent arteriosclerosis and degenerative disease by controlling diabetes? This is difficult to answer in the adult patient because one is dealing with the age group in which arteriosclerosis appears. It is difficult to know in the individual case whether the condition is an expected amount of arteriosclerosis or an accelerated process. There are no figures, no statistics derived from the study of patients who developed diabetes after 40 on which to base any assumption that treatment of diabetes can prevent arteriosclerosis. Everyone assumes that such degenerative disease can be delayed, but so far as I know there is no experimental evidence derived from adult patient study to back up such statements. It is a clinical impression. We do not know whether these are simply two effects of the same cause. Until we know what diabetes is, I am afraid that question will not be answered.

As you know, there has been a great interest in this problem here in the Department of Pediatrics. With the juvenile diabetic one can make observations and produce statistics which may mean more than those derived from the adult patient study because one is dealing with an age group in which there should be no arteriosclerosis, so that the presence of degenerative disease is abnormal. Dr. Jackson is going to tell us something about this work.

Dr. Robert L. Jackson, *Pediatrics*: Diabetes mellitus in a young patient is so different from diabetes mellitus in the middle-aged or elderly patient that one hesitates to compare data from juvenile diabetics to data on adult diabetics. As Dr. Hardin has pointed out, the juvenile group of patients provides unusual opportunities to study atherosclerosis, as they are known to be developing vascular changes during early life, and the picture is not complicated as with older patients who are developing vascular disease as a part of the aging process. The majority of the middle-aged patients are obese when the disease is first discovered and the onset is frequently insidious. The majority of children and young adults are

under-nourished when the disease is first discovered and the onset is relatively sudden.

In general, young adults and children begin to show signs of vascular disease after ten to twenty years of treatment, as reported by most clinics which permit glycosuria. The part that diet may have in the development of degenerative changes is not clear. In 1948, Fanconi reported an extremely high incidence of nephropathies in a group of juvenile diabetics given a low protein diet. It is well recognized that diabetes in the young patient is more severe and difficult to control than in the adult, because the nutritional requirements are relatively greater and constantly changing, infections are more frequent and severe, exercise is more erratic and the emotional pattern is unstable, particularly during adolescence. Whether periods of poor control resulting from infections are more hazardous than periods of poor control resulting from dietary indiscretions or other factors, such as variations in the amount of physical activity, is not known. Until recently the importance of the level of control of the disease had not been given sufficient emphasis in most studies. Too frequently, when level of control is considered, objective criteria for establishing level of control have not been given. Not only is there confusion regarding the classification of patients as to varying levels of control but also in regard to severity of the disease. The insulin dosage in relationship to weight is the usual criterion used, yet we know that the lability of the patient also is a major factor and may be of greater significance. All data in the literature clearly show that the duration of the disease is a major factor in the development of degenerative changes.

We recently made a study to determine if the degenerative changes that develop in juvenile diabetic patients are a concomitant of the disease or reflect inadequacies in the level of control. We found that the level of control as well as the duration of the disease is an important factor influencing degenerative changes, and that good control will delay, possibly prevent, degenerative changes. The size of the group that maintained good control for over 20 years was relatively small, but none of these patients showed signs of degenerative changes. Patients who had sustained only fair control, which in general would be comparable to what other clinics call good control, began to develop signs of vascular disease after 12 to 15 years of treatment. Patients who had sustained poor control developed more and earlier signs of vascular disease.

We have found that if the diabetic child is treated early and completely, a very high level of control makes it possible to revert his metabolism to a physiological state. Obviously, no diabetic patient can be maintained in perfect control at all times. With each additional year of the disease each patient has additional periods of short or long duration when his metabolism has been abnormal. We also have learned that as the disease

is incompletely controlled it progressively becomes more difficult and eventually impossible to re-establish a physiological state.

We do not understand thoroughly the development of the deranged metabolism or the inter-relationships of hyperglycemia, hypercholesterolemia and hypoproteinemia which are present in the diabetic patient with incomplete control. The study of atherosclerosis in recent years has centered about the finding of the higher incidence of hypercholesterolemia in persons with this type of vascular disease. Controversy exists as to the relative significance of total serum cholesterol, cholesterol-phospholipid ratio and lipoproteins in the pathogenesis of atherosclerosis. At the present time we are studying the lipid metabolism of our group of patients with the hope of clarifying the relative significance of these various factors.

Frequent insulin reactions, particularly severe insulin reactions, can cause irreparable damage to the central nervous system. I would like to ask Dr. Hardin's opinion regarding the possible insulin reaction in relationship to the cerebral accident in the patient under discussion this afternoon. Another thing that was surprising to me in the patient under discussion was the presence of so-called diabetic retinitis and hypertension, observed at the onset of her disease. Apparently the hypertension and retinitis were mild and did not progress as would be expected in a juvenile diabetic. No doubt these variations in the course of the disease are related to differences in the disease as it occurs in children and young adults as compared to middle-aged and older adults. I also would like to ask if serum cholesterol values were obtained on this patient.

Dr. Hardin: I searched the record carefully and found no determination at any time of the serum cholesterol. Retinitis was seen and diagnosed on the patient's first admission. She was seen repeatedly by the Department of Ophthalmology and each time the presence of retinitis was recorded. This gradually progressed so that it became rather severe in later years. She did not, however, have any great diminution in acuity of vision at any time. The cataracts which were noted on her first admission did not progress, and she did not at any time have glaucoma, which was thought to be developing at one time. Her blood pressure reading would classify her as a mild hypertensive.

Dr. Warner has one more comment to make.

Dr. Warner: There is one comment I neglected to make relative to Dr. Bell's analysis. In his group of diabetics there were 28 cases in which the onset of diabetes occurred prior to age 40, who lived more than 20 years and who showed no significant vascular lesions at the time of death. He tried to correlate these nonarteriosclerotic cases with Minnesota's standards of poor, fair and excellent diabetic control. He found no correlation between excellence of the control and absence of arteriosclerosis after long-standing diabetes in people

who had their onset under 40. This may serve to punctuate Dr. Jackson's remarks about the criteria of what constitutes good control. Dr. Bell did not give the criteria.

Dr. Bell made a final point, that there were no cases which could be properly classified as mild in the group dying under 40. Thus he had no mild and severe diabetics for comparison of those who died under 40 of diabetes. In the group over 40, he could find no correlation between mild and severe diabetics and the severity of arteriosclerotic lesions.

Dr. Jackson had one other question relative to the possible brain damage with insulin shock. The lesions in this patient's brain were of the type of distribution that we see with extensive cerebral arteriosclerosis. There was nothing peculiar about the lesions. They were not on the basis of thrombosis of vessels, for the most part, nor on the basis of complete occlusion of arteries. The damage was on the basis of degeneration of areas of brain tissue in which the vascular supply became sub-critical. Additional insulin shock undoubtedly would have raised the critical level of blood supply a little higher. Any influence it had would be bad, and the terminal event could well have been insulin shock.

Dr. Hardin: Just one more comment. It is impossible to say that the hypoglycemia which this patient may have had at the onset of unconsciousness might not have played a part in brain damage. However, it has been noted clinically many times that such does occur, but much more commonly do the symptoms of coronary occlusion occur during episodes of hypoglycemia. Hypoglycemia is very much to be avoided in people of this age, and to be thought of during the treatment of diabetic acidosis.

VA COURSE IN PSYCHIATRY AND NEUROLOGY

The Veterans Administration is instituting a four month intensive training course in psychiatry and neurology to fit the needs of physicians without such previous training who are assigned to duty in 22 predominantly psychiatric hospitals. Physicians who have been engaged in general practice may request this training upon applying for a position at one of these hospitals.

The course will be held at the VA Hospitals in Coatesville, Pennsylvania; Palo Alto, California; and a joint Downey-Hines, Illinois, program near Chicago, Illinois. Physicians will be employed at salaries commensurate with their training and experience (salary range: \$5,500 to \$11,800 per annum) and assigned to the course with travel and per diem for the four month period.

Information and applications may be obtained from your nearest VA Hospital or Regional Office, or by writing to the Chief Medical Director, Veterans Administration Central Office, Washington 25, D. C.

The JOURNAL of the

Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines

MISS MARY L. McCORD, Managing Editor.....Des Moines

RANSOM D. BERNARD, M.D., Business Manager....Des Moines

MR. DON L. TAYLOR, Advertising Manager.....Des Moines

MISS JOYCE MEYER, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City

ALLAN G. FELTER, M.D.....Van Meter

DANIEL A. GLOMSET, M.D.....Des Moines

TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington

JOHN W. BILLINGSLEY, M.D., Trustee.....Newton

WENDELL L. DOWNING, M.D., Trustee.....Le Mars

ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines

EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
529-36th Street, Des Moines 12

Vol. XLII

OCTOBER, 1952

No. 10

A STUDENT LOOKS AT GENERAL PRACTICE

As may be commonly known, there is a plan underway for the establishment of preceptorships among general practitioners in Iowa to enable university medical students to become better acquainted with this phase of medical practice. This year's service requirement is one month in either a hospital or with some local doctor.

This summary contains the most important impressions of the writer, a senior medical student who first opposed the idea, later to work voluntarily an extra month with a general practitioner in a town of 400, after serving his required month in University Hospitals.

The disadvantages of small town practice seem, for the most part, to lie outside the field of medicine itself. They are more related to the social, educational and religious aspects. There seems to be a lack of social contact with persons of similar educational background and culture, the burden being borne more, perhaps, by the doctor's wife, since the practitioner himself has available contacts through his professional organizations. The educational facilities for children appear to be less adequate because the consolidated schools are smaller and their access to talent and diversity of subject material is more limited. Admittedly, the consolidated school offers more than district country schools toward the above standards.

The religious life of the community is in line with the social and educational pattern—simple and informal. It seems to lack depth of thought and philosophy. Among these essentially country

people, however, one finds a constancy, friendliness and mutual assistance that is becoming increasingly rare. This constancy is reflected, in a mercenary sense, by the relatively prompt payment for medical services.

A new man's fear that his work might be mainly reduced to dispensary services in a small town is relieved when he learns of the increasing number of county hospitals which are being built. In one of these, he may serve on the staff, be in complete charge of his patient's care and have access to the latest medical advances.

The disadvantages of small-town practice are largely overcome in larger towns or cities; however, city doctors also have to contend with irregular hours. Usually they are more burdened than a competent specialist. This writer had no conception of the number of hours the general practitioner works or of what being on call seven nights a week actually means.

It is argued pro and con whether the general practitioner or the specialist must be the more competent. This traditional debate may in part represent the effort of the general practitioner to attain for his group the respect to which it is entitled.

The continual and almost desperate effort which must be made to keep abreast of current thought is another disadvantage of general practice which leaves little time for original work or research. This problem is being attacked by the Academy of General Practice through its work to establish refresher courses. The distress of irregular and long hours may be relieved if an understanding can be established with nearby physicians so there will be opportunities for vacations and medical meetings.

General practice does furnish a tremendous challenge because of the diversity of material and the constant contact with individuals' emotional problems. Also appealing is the philosophy that the general practitioner assumes the responsibility for the medical care of his community. He is the guardian of its health and general well-being.

Small town clinics are of particular interest. They serve the community more efficiently and easily and they permit the members to alternate night calls as well as to work more with their special area of interest. With the willing cooperation and understanding of member-doctors, such clinics can be organized. In a large measure they will increase the advantages of small town practice and minimize the disadvantages.

It is gratifying to know that the men in general practice in Iowa are in favor of the preceptorship training program, as shown by the long list of names in the office of the dean of the College of Medicine. This is surely one of the best methods of acquainting students with the field and of making clear to them its needs and place in medical practice. Most important of all, student preceptors discover its challenge to all the talent at their command.

ADMISSION TO VETERANS ADMINISTRATION HOSPITALS

There has been some confusion in the past regarding eligibility for admission to Veterans Administration hospitals. Nine new priority groups have been established to clarify admission procedures. These groups are based on laws enacted by Congress and administered by the Veterans Administration.

Excluding emergency admissions, all eligible persons will be admitted in the following order of priority:

Group 1—War veterans and those who served since June 27, 1950 (the start of Korean hostilities) who require hospitalization for service-connected disabilities.

Group 2—Peacetime veterans requiring hospitalization for service-connected or line of duty discharge disabilities.

Group 3—Veterans whose hospitalization has been requested by authorized officials for observation and examination purposes.

Group 4—Wartime, post-Korea, and peacetime veterans with service-connected disabilities or with line of duty discharges who are currently hospitalized by VA in non-VA hospitals, but have requested transfer to a VA hospital.

Group 5—Wartime, post-Korea, and peacetime veterans who are currently hospitalized by VA for treatment of nonservice-connected disabilities, but whose transfer from one hospital to another has been requested by authorized officials for medical reasons.

Group 6—Wartime, post-Korea, and peacetime veterans with compensable service-connected disabilities or discharged for line of duty disabilities requiring hospitalization for non-service-connected disabilities.

Group 7—Wartime, post-Korea, and certain veterans retired from the U. S. Armed Forces for physical disabilities, having no compensable service-connected disabilities and not discharged for line of duty disabilities, who require hospitalization for nonservice-connected disabilities.

Group 8—Non-veterans whose hospitalization has been requested by authorized officials, excepting U. S. Armed Forces personnel whose hospitalization is directed by the VA Central Office in Washington, D. C.

Group 9—All eligible veterans currently hospitalized in another VA hospital who have requested transfer for personal reasons, but whose transfer is not necessary for medical reasons; and certain eligible veterans whom VA has hospitalized in non-VA hospitals and who have requested transfer to VA hospitals for personal reasons but whose transfer is not necessary for medical reasons.

The new directive further sets up an order of consideration within priority groups. This is accomplished by listing all names within a priority group as "urgent" or "general," depending upon

the decision of the hospital manager or admitting physician as to the extent of medical need for hospitalization in each case.

The names in each of the "urgent" and "general" categories will be listed chronologically to insure that the name with the oldest date of application or request for hospitalization will be listed first.

Under this order of consideration within priority groups, vacant beds will be utilized for persons in the "general" category only when there are no persons in the "urgent" category of the same priority group for whom the beds can be used.

The general policy requires that a person in any given priority group will be scheduled for admission only when there are no cases for whom the vacant bed may be used in all other groups listed above his group.

For example, no Group 2 case may be scheduled for admission if there are one or more cases in Group 1 for whom the vacant bed can be used; no Group 3 case will be scheduled for admission if there are one or more cases in Groups 1 and/or 2 for whom the vacant bed can be used, and so on down the line.

When a person in any priority group who has been scheduled for admission to a hospital fails to report within 15 days after the date of mailing the notification to report for hospitalization and fails to offer a valid explanation, his name will be placed at the bottom of the chronological listing within that priority group. If circumstances warrant, his name will be removed from the priority group and he will be required to file a new application for hospital care.

INNER EAR MECHANICS

It is well known that anoxia in the brain will frequently result in marked organic brain damage which all too frequently is permanent in character. Recent studies by the U. S. Naval Medical Research Laboratory have now established interesting facts regarding the effects of anoxia upon the inner ear.

Radio and television have made all of us aware of what the conventional microphone does—convert weak sounds into stronger sounds. The ear by its marvelous self-generated electrical energy is able to act in the same fashion, in ways which research is just beginning to unravel. The electrical energy produced by the ear has actually been recorded and measured in experiments conducted at the Medical Research Laboratory. Testing small animals in electrically-shielded and sound-proofed rooms, Dr. Kempton G. Wing and his associates recorded the rise and fall in cochlear microphonics caused by varying the amount of oxygen supplied the animal, collected blood samples for analysis and made electrocardiographic tracings. Their aim in studying how these cochlear microphonics are affected by various degrees of depri-

(Continued on page 513)

President's Page

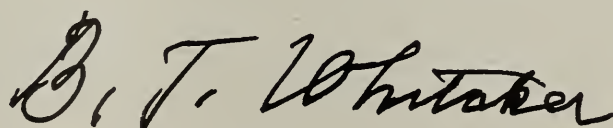
VOTING

The November election is rapidly approaching, and during the past few weeks the press, radio and television have been telling the virtues of the various candidates, so no one should be uninformed regarding the campaign issues.

This coming election has not only great significance to the country at large, but has an especial interest to the medical profession; therefore it behooves each one of us to see that our vote is recorded. Following the election in 1948, spot checks by the AMA showed a disgraceful voting record among physicians. This apathy is hard to explain. Undoubtedly many of those who stayed at home were the most vocal in condemning some of the existing conditions.

Let us attempt this year to have a perfect voting record among the members of the Iowa State Medical Society. In addition let us see that our families, associates and friends exercise their right of franchise.

It is a definite challenge. Let us not fail.

A handwritten signature in cursive script, reading "B. J. Whitaker". The signature is written in dark ink and is positioned above the printed name.

President

General Manager's Page

PRESIDENT'S COMMISSION ON HEALTH NEEDS OF THE NATION

It was my privilege to represent the state Society at the district meeting of the President's Commission on the Health Needs of the Nation, held in Minneapolis, September 2, 1952. The Commission was represented by Dr. Dean Clark, general director of the Massachusetts General Hospital, and Miss Marian W. Sheahan, R.N., director of the National Committee for the Improvement of Nursing Services. Miss Sheahan presided at the meeting.

The meeting was called to order shortly after 10:00 a.m. and continued, with a brief interruption for lunch, until 7:30 p.m. Approximately 50 persons appeared on the program.

The individual invitations sent to the participants on the program were not mailed until August 19, which made it difficult for them to make an adequate preparation for the ten minutes allowed to present their ideas on health needs. The speakers included, among others, three representatives of the Farmers Union, four representatives from the CIO, educators from the University of Minnesota and representatives from the following Minnesota organizations: nursing association, osteopathic association, hospital association and dental society. Both Wisconsin and Iowa State Departments of Health and the state medical societies of North and South Dakota, Wisconsin, Minnesota and Iowa were represented.

Presentations were made in a sincere and dignified manner and, as expected, groups such as the labor unions were definitely in favor of national health insurance.

In answer to the statement made by the several medical societies that the information presented at this meeting was totally inadequate for such an important investigation, Miss Sheahan announced that the commission would base its deductions from information supplied by previous surveys, the AMA and the impression gained at these conferences. They would also consider a more detailed report from any of those who participated in the conference—this report to be mailed within 30 days of the meeting.

Your representative feels that much of the information and many of the conclusions reached by the groups representing the various unions, etc., is highly controversial. The Commission seemed to be far more interested in the criticisms than in the present high level of medical care. One thing, however, was definitely established—that the citizens of the five states involved in this conference are receiving, without exception, good medical care and adequate hospitalization. Pre-paid hospital, medical and surgical insurance is available. Health achievements in the past decade have made these states outstanding in comparison with the national level.

R. D. Bernard, M.D.

General Manager

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

THIRD DISTRICT MEETING

Officers and members of the Third District, Northwest Iowa, met for morning coffee at the summer home of Mrs. Dean H. King, Lake Okoboji, on Tuesday, July 29. Mrs. Lonnie A. Coffin, state president, was the guest of honor. Mrs. James P. Clark, district councilor, spoke on the tentative plans to complete the district's three unorganized counties in the fall. Mrs. Dean H. King, as state nurse recruitment chairman, stressed the encouragement of junior high and high school girls toward entering nurses training. She spoke of the need for enlarging the Nurses Loan Fund. A list of all loan funds is being compiled and will be made available to auxiliaries; to individual doctors' wives and to interested girls.

Mrs. Lonnie A. Coffin recommended the sale of *Today's Health* as a means of raising money. Although it sells for \$3.00 to laymen, the profession is charged just \$1.50 per subscription. The \$1.50 commission might be applied on the Nurses Loan Fund. Mrs. Richardson E. Clark, Manchester, *Today's Health* chairman, advises all members to send subscriptions directly to: Subscription Department, 535 N. Dearborn Street, Chicago, Illinois. Retain the commission of \$1.50 for your own auxiliary.

Mrs. Lester R. Hegg, Rock Valley, first vice-president and organization chairman, announced a membership goal of 1,000 members. The current membership is 887. In comparison to surrounding states, our membership is low and we urgently need to raise our sites. We must not only study together, we must activate study. If each Auxiliary member makes an honest effort to know her own community, to lend direction and assistance toward all health and related projects, we shall be contributing toward the maintenance of a free people and a strong America.

MRS. LESTER R. HEGG, *First Vice-President*

ACTIVITIES OF COUNTY AUXILIARIES

The Delaware County Auxiliary met at the Memorial Hospital in July. After dinner with the husbands, the regular business meeting was conducted by Mrs. Paul G. Meyer, president. Mrs. George T. Grimmer, Manchester, and Mrs. J. Stuart McQuiston, Cedar Rapids, were guests at the meeting.

After the regular business meeting, Mrs. Burton H. Byers, director of the local Red Cross chapter, talked to the Auxiliary about her recent trip to the West Coast.

MRS. JOHN E. TYRRELL

The Greene County Medical Auxiliary met for a 6:30 dinner with their husbands at the Woman's Club Building, Jefferson, July 8. The entire group heard brief talks by Doctors McQueen and Froning of the University Hospitals. The two visiting doctors are members of the S.U.I. staff which conducted a crippled children's clinic at the Greene County Hospital the following day. A number of the Auxiliary members assisted at the clinic.

MRS. MAX F. WETRICH

The Wapello County Medical Auxiliary met Tuesday, September 2, at 7:30 p.m. at the home of Mrs. Charles Gray. There were 22 members present. The guest speaker, Mrs. Evan Walker, gave an instructive talk on polio.

This year the Auxiliary is sponsoring a student nurse through three years of training. It also has given \$100 to the handicapped children in our city. The annual picnic was held May 5 on Dr. and Mrs. Frederick L. Nelson's lawn. The program included a cake auction, which netted \$60. The Auxiliary will have its annual dinner meeting with the doctors in November.

MRS. WALTER E. ANTHONY

After 36 years as the husband of a doctor's wife I am appreciative of the fact that no single influence helps to develop and mold the doctor as does his nearest partner in the business and adventure of life. The development of character, standards, ideals and humaneness depends upon her influence as upon no other. His success and influence in the community depend upon these qualities as much as upon his scientific attainments.

The future of medicine and of the world depends on the leadership which it develops, and leadership can influence only as a result of confidence. I appeal to you wives of doctors to develop in your men these qualities which will inspire the confidence necessary to mold the thought of the community in matters relating to health.

To understand your doctor and his job, you

must go back to a time when he made the great decision to take up a life work whose main reward is the satisfaction of work well done. No ambition for fame or riches prompted his choice, rather it was the highest idealism of youth. It is this idealism, this willingness to sacrifice, this sense of values which you as his partner must share with him and keep alive in him.

Nothing is as important in shaping the doctor's career as is his wife and his home. The doctor's wife must share his idealism, appreciate a standard of values held by no other group, and give to him an understanding required of few. Being a doctor's wife is both an art and a career.

First, she can never exercise the prerogatives of ownership which other wives claim, for the public feels and exercises a sense of ownership in him as well. His time is theirs, day or night, and they do not hesitate to intrude. Plans are difficult to make, and to fulfill. His habits, mode of living, his personality and private affairs are subjects of discussion and criticism, as is true of no other profession except the clergy. As his partner, the doctor's wife is the victim of all this as much as he. Instead of reacting with bitterness and resentment she must submerge her feelings and exercise a steadying influence on him.

There are temptations in his professional career which must be met. At times, need brings the temptation to commercialism. With fatigue, there is the urge for relaxation and amusement at the expense of necessary reading and study, or attendance at medical meetings. There is the urge to retaliate at fancied or actual wrongs at the hands of his colleagues; or to advance at the expense of others. In these and other circumstances the temptation will be as great to his wife as to the doctor. She will want material rewards, more rest for him, more of his time and companionship, but hers must be the influence to keep his purpose unchanged, his ideals in no way lowered and his character above reproach.

But when the task must be lightened, and he passes on to younger hands a professional career above reproach, you will look back over the years and hear him say, "You were my partner—it was possible only because of you."—ROCK SLEYSER, M.D., reprinted from the *Missouri Bulletin*.

HEALTH SUBJECTS ARE POPULAR

It seems to me that one of the real reasons for sales resistance to *Today's Health* lies in our own attitude toward the magazine. And that is something we can, and we must, overcome.

Just take a hurried once-over of your magazine rack and you will find that all popular periodicals of almost all classifications, have one or more articles about medicine or some allied subject. This applies to newspapers, too.

When you consider that in *Today's Health* you have a magazine devoted to articles concerning

health—each and every one of them authenticated by the highest medical authority in the United States—you should realize you have a potent selling point.

Ask your husbands how many, many times they have had some patient come in asking them about that new drug or treatment they have read about in some periodical. Sometimes these publications get their facts correctly. Often, however, they either are garbled or misleading.

Today's Health offers a wealth of free medical advice—advice that can be followed safely. The regular reader of the magazine will spare your husband many time-consuming questions which the ordinary patient asks.

If your experience conforms to that of many other doctors' wives, *Today's Health* has a definite place in your home. It isn't that your husband is really reluctant to answer your questions. It's simply that he's tired of talking shop.

You must have at least one person on your Christmas list who "has everything" and every year presents a problem. Why not settle that for once and all—with *Today's Health*?—Evelyn Shaver, reprinted from *The Florida Medaux*, September, 1952.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursdays at 11:15 a. m.

GUARDIANS OF YOUR HEALTH

October 2.....The Public Health Laboratory
October 9.....Guarding the Food Front
October 16.....Trained Public Health Workers
October 23.....Controlling Contagious Diseases
October 30.....Popular Health Crusaders

WSUI—Tuesdays at 11:45 a. m.

BEFORE THE DOCTOR COMES

October 7.....Cuts and Scratches
October 14.....Listless and Irritable Children
October 21.....Bad Bumps
October 28.....Bleeding

TELEVISION SCHEDULE

WOI-TV at 8:30 p. m.

October 8.....Glaucoma
October 22.....To be announced

UROLOGY AWARD

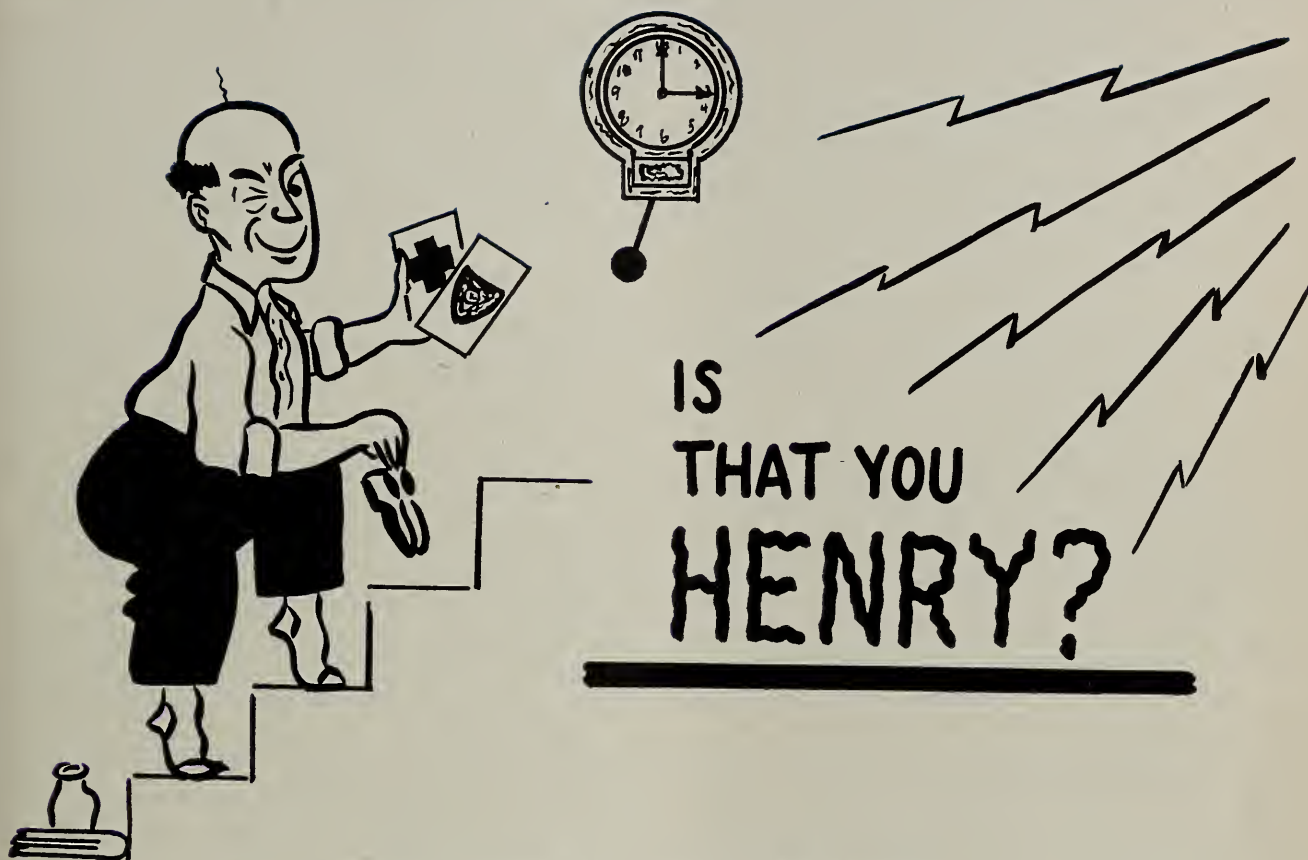
The American Urological Association offers an annual award of \$1,000 for essays on the result of clinical or laboratory research in urology. Competition is limited to urologists who have been in its specific practice for not more than five years and to men training to become urologists. First prize is \$500, second award is \$300 and the third winner will receive \$200.

Full details may be had from William P. Didusch, Executive Secretary, 1120 North Charles Street, Baltimore, Maryland. Essay deadline is January 15, 1953.

BLUE CROSS



BLUE SHIELD



Thank goodness I've got Blue Cross-Blue Shield.

The Veterans Administration has asked us to call to the attention of Iowa physicians the fact that they should not permit their secretary or nurse to sign the V. A. examination or treatment reports on veterans. Apparently there has been some evidence that persons other than physicians have been signing these forms.

By direction of the Committee on Medical Service of the Iowa State Medical Society, the physician relations representatives of Iowa Medical Service are again scheduling meetings of the doctors' secretaries and nurses. This activity has proved to be most beneficial to Blue Cross-Blue Shield in their efforts to better inform doctors' employees and, accordingly, the public. We make mention of this work in order to encourage its approval by county medical societies.

The response to the Blue Shield questionnaire which was mailed to all Iowa physicians was good.

Approximately 25 per cent of the doctors supplied the information which was requested. The Board of Directors of Iowa Medical Service studied the results of the survey at a meeting held in Des Moines, Sunday, September 21.

Blue Shield is in hopes of improving its claims operation so claims will be paid within ten days to two weeks from the time they are received. Additional personnel have been added to the claims department and the claims load has decreased.

BLUE SHIELD MONTHLY STATISTICS

August 1, 1952

Enrollment 348,310

Claims Processed for Payment 8,462

Amount Paid in Claims \$269,640.32

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chestnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

"FIVE YEARS OF AGE"

Here in this city, less than five years ago, a group of dedicated men lit a candle. Weary of cursing a trend that threatened to extinguish a fundamental tenet in their profession, they created an institution whose purpose should be to preserve and strengthen the basic foundation upon which any effective system of medical care must rest.

A few weeks ago the American Academy of General Practice received a letter from England asking for advice and assistance in the establishment of a Royal Academy of General Practice. Consider the significance of this. The ancient and venerable Royal College of Physicians and the Royal College of Surgeons of England are the prototypes for similar organizations in America. But, so far as I know, the American Academy of General Practice is the first medical association in this country to serve as the pattern for a similar movement in the mother country. The historic line of descent has, in this case, been reversed.

In the oldest university medical school in America, the undergraduate students last year formed a General Practice Society. At the University of Pennsylvania, where heretofore the chief emphasis has been upon specialization, nearly a hundred students have joined this voluntary movement. Surely this is proof that those who met here in Atlantic City a little over four years ago to form the American Academy of General Practice were possessed of a noble idea and the gift of vision.

The Academy has achieved brilliant progress in the realization of its primary aims. It would surely be a mistake to abandon these basic causes now, merely for the sake of new ones.

Ponder, for instance, the fact that the American Academy of General Practice has been accepted by the rest of the profession and the public as the representative of and the official spokesman for all general practitioners in America. Thus it has accomplished what I regard its most important single function. Incidentally, it has also assumed an enormous responsibility. It serves as an effective medium through which the concerted voice of the general practitioners of America may be articulated.

Other and more tangible goals have likewise been achieved. It is not too immodest to say that the annual assemblies of the Academy, embodying as they do a new concept in medical meetings, are rather generally recognized as without equivalent.

In addition, few would question the statement that our official journal has established something of a new standard in medical journalism.

Some of the major problems which four years ago obstructed progress in the general practice of medicine and surgery have been largely solved. I do not mean to say that no problems remain; but, thanks to the energetic and well-directed activities of our standing committees and commissions, substantial progress has been achieved in our efforts to obtain for general practice a proper position in the matrix of American medicine.

Evidences of hospital discrimination against the non-specialist are fewer. Needed facilities for postgraduate training have been greatly expanded. On all sides one can see renewed interest in and increased respect for the general practitioner as the key figure in our system of medical practice.

There remains one essential goal to which I think we should direct our earnest thought and our principal efforts. Probably each of you can think of a well-qualified and highly regarded doctor who should be a member of the American Academy of General Practice, who, so far, has not accepted the invitation to join. There are such men in every community, men who would benefit from membership and whose affiliation would enhance the strength and prestige of the organization.

Why aren't they members?

In searching for the answer to this question, I think you will come face-to-face with a simple fact. The typical private practicing physician joins voluntary medical organizations not for the tangible benefits he may derive therefrom, but for the added professional and personal prestige and opportunity to serve his profession.

If this be true, it seems to me we should capitalize on that point. Our primary aim for the immediate future should be to increase the prestige value of Academy membership, remembering, of course, the injunction of the Prince of Aragon: "Let none presume to wear an undeserved dignity."

Excerpts from the Report of the Executive Secretary, Atlantic City, March, 1952. GP, 6:133-137 (August) 1952.

THE JOURNAL BOOK SHELF

BOOK REVIEWS

THE 1951 YEAR BOOK OF PEDIATRICS (July, 1950-July, 1951), edited by *Henry G. Poncher, M.D.*, with the collaboration of *Julius B. Richmond, M.D.* (The Year Book Publishers, Inc., Chicago, \$5.00).

This book digests articles on the premature and the newborn; nutrition and metabolism; gastrointestinal, genitourinary and respiratory tracts; infectious diseases and immunity; heart and blood vessels; allergy, poliomyelitis, tuberculosis, blood, endocrinology, orthopedics, dermatology, otolaryngology, ophthalmology, neurology and psychiatry, therapeutics and toxicology.

Frequent comments are made by the editors to aid the reader in evaluating the significance of articles. Also, the journals from which the articles are reviewed are mentioned in the footnotes so that the reader may refer to the original articles.

Needless to say, this is an excellent review of the year's progress in pediatrics.—*H. H. Corn, M.D.*

BONE TUMORS, by *Louis Lichtenstein, M.D.*, (C. V. Mosby Co., St. Louis, \$10.00).

This splendid textbook particularly emphasizes accurate diagnosis and proper treatment of bone tumors.

The author is well known as an outstanding author upon this subject. The text is liberally illustrated and the bibliography is complete. Anyone interested in the diagnosis and treatment of bone tumors should include this volume in his library.—*E. M. George, M.D.*

ELEMENTARY MEDICAL STATISTICS, The Principles of Quantitative Medicine, by *Donald Mainland (W. B. Saunders Co., Philadelphia, \$5.00).*

This monograph belongs in all medical libraries. It should be consulted whenever an article which includes the use of statistics is to be written. The substance of the subject, medical statistics, is admirably handled. It is written in an understandable fashion and includes many illustrative examples.

The following chapter headings indicate the scope of the book: The Place of Statistics in Medicine; On Looking at Evidence; Estimating the Error in Enumeration Data; Comparison of Samples of Enumeration Data; Variation Between Measurements; Relationships Between Measurements, Concomitant Variation and Trends and Statistical Ideas in Clinical Medicine.

If all authors of medical articles with statistical data were to read this book, I venture to predict that the number of articles in the literature would be cut by at least one fourth.—*D. A. Glomset, M.D.*

THE SCALP IN HEALTH AND DISEASE, by *Howard T. Behrman, M.D.*, (C. V. Mosby Co., St. Louis, \$12.95).

The author, a specialist of wide experience, has given the reader a well written book. Information is presented in a clear style. There are 312 instructive illustrations. A detailed list of references at the end

of each chapter is an outstanding feature of the book.

The author presents a scholarly review of the anatomy, physiology, embryology and anthropology of the hair and a timely discussion of the effects of the various hormones on hair growth, in the first chapter.

The second chapter deals with care of the normal scalp. It offers an instructive discussion of the various hair preparations, such as shampoos, hair lotions, wave and setting lotions, cold wave preparations, dyes, rinses, bleaches and hair creams. The chapter includes a list of the various ingredients which occasionally act as sensitizers and primary irritants.

The remaining chapters are devoted to the various diseases of the scalp and hair. They include a condensed, up-to-date discussion of the clinical features, pathology, etiology, differential diagnoses and therapeutic measures.

This book may be highly recommended to students, dermatologists, physicians and others interested in normal and diseased hair.—*L. J. Noun, M.D.*

LIVING IN BALANCE, by *Frank S. Caprio, M.D.*, (Arundel Press, Inc., Washington, D. C., \$3.75).

Here is a book which will prove of value to your patients who need a pat on the back or who need to be assisted in learning how to get along with other people. The author has attempted to explain why people act as they do. Judicious use of this book may be helpful in preventing nervous breakdowns among neurotic patients.—*E. M. George, M.D.*

BOOKS RECEIVED

CARDIAC THERAPY, by *Harold J. Stewart, M.D.*, Associate Professor of Medicine, Cornell University Medical College, New York; Attending Physician, New York Hospital; Head of Division of Cardiology, Department of Medicine, New York Hospital-Cornell Medical Center. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, 1952. Price \$10.00.

THE LOW FAT DIET COOKBOOK, by *Dorothy Myers Kilbreth*, Dietician, and *Eugene A. Hildreth, M.D.*, with an introduction by *Francis C. Wood, M.D.* Medical Research Press, New York, 1952. Distributed by Grosset and Dunlap. Price \$2.95.

PHARMACOLOGY IN CLINICAL PRACTICE, by *Harry Beckman, M.D.*, Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General Hospital and Columbia Hospital, Milwaukee, Wis. W. B. Saunders Co., Philadelphia, 1952. Price \$12.50.

PHYSICIAN'S HANDBOOK, by *Marcus A. Krupp, M.D.*, Assistant Clinical Professor of Medicine, Stanford University School of Medicine and Director, Palo Alto Medical Research Foundation, Palo Alto, Calif.; *Norman J. Sweet, M.D.*, Assistant Professor of Medicine, University of California School of Medicine, San Francisco; *Ernest Jawetz, Ph.D., M.D.*, Associate Professor of Bacteriology and Lecturer in Medicine and Pediatrics, University of California School of Medicine, San Francisco, and *Charles D. Armstrong, M.D.*, Clinical Instructor in Medicine, Stanford University School of Medicine. Seventh Edition. Lange Medical Publications, Los Altos, Calif., 1952. Price \$2.50.

RESEARCH IN ENDOCRINOLOGY, by *August A. Werner, M.D.*, and Associates. Edited by *Al. R. Schmidt*, City Editor, Belleville Daily Advocate, Belleville, Ill. Von Hoffman Press, Inc., St. Louis, 1952.

STATE DEPARTMENT OF HEALTH

Walter L. Diering

THE RECENT POLIOMYELITIS CASE—AN ADDED SCHOOL HEALTH PROBLEM

During the summer of 1952 Iowa suffered from a severe epidemic of poliomyelitis in several areas of the state.

In spite of the extra work in caring for these acutely ill patients we must be farsighted and make plans for their post-epidemic care.

Let us talk about the school age group. Many of these children made sufficient recovery to return to school in the fall. It will be important for both teachers and parents to understand that the polio virus attacks nerve cells. As a result many of these patients have definite irritation of nerve cells and for weeks or even months after the infection they will be irritable and nervous. Many are not able to concentrate for more than a few minutes at a time for a long period after the acute infection. Many of them fatigue easily.

A wise parent and teacher will understand this condition and not expect too much from the child or overtax him. For the first few weeks of school the post-polio child should have arrangements made for rest periods.

The diet of the post-polio child is also important. In addition to the required nutrients he needs

additional protein to strengthen weakened muscles.

If a child has muscle weakness or paralysis as a result of polio and is placed on exercises to redevelop muscles, these exercises must be done faithfully and regularly. They must take precedence over all other activity. Time in the daily schedule must be allotted for them.

We must also be on the alert for individuals who had such a light case that no symptoms were produced and no diagnosis ever made. In an epidemic area these undiagnosed or "missed" cases far exceed the diagnosed cases.

The "missed" case may show a weakness of certain muscles months after onset. Such weakness will evidence itself by a beginning curvature of the spine, toe drop or affectation of some other muscles. Teachers in schools in areas of recent high poliomyelitis incidence should be alert for the child who deviates from normal body alignment—that is, the child who starts to slump or slouch, stands with one arm farther away from the body that the other arm, drags a toe, holds his head to one side or becomes fatigued easily.

If such deviates are noted early, referral to medical care may save serious late results.

These facts show that handling of the acute case is only part of the job of caring for the

IOWA CANCER DEATHS BY SEX AND SITE

1950-1951
DIVISION OF CANCER CONTROL

| SITE | MALES | | | FEMALES | | |
|--------------------------------|-------|------|--------|---------|------|--------|
| | 1950 | 1951 | CHANGE | 1950 | 1951 | CHANGE |
| Cancer of | | | | | | |
| Buccal cavity & pharynx | 78 | 30 | -48 | 15 | 10 | - 5 |
| Digestive organs & peritoneum | 853 | 897 | +44 | 770 | 741 | -29 |
| Respiratory tract | 237 | 276 | +39 | 90 | 71 | -19 |
| Breast | 9 | 4 | - 5 | 362 | 384 | +22 |
| Uterus | | | | 250 | 244 | - 6 |
| Other femal genitalia | | | | 133 | 160 | +27 |
| Prostate | 300 | 291 | - 9 | | | |
| Other male genitalia | 17 | 21 | + 4 | | | |
| Urinary organs | 128 | 140 | +12 | 52 | 74 | +22 |
| Skin | 36 | 43 | + 7 | 29 | 26 | - 3 |
| Eye | 4 | 10 | + 6 | 7 | 6 | - 1 |
| Brain & central nervous system | 38 | 67 | +29 | 23 | 32 | + 9 |
| Thyroid | 8 | 6 | - 2 | 5 | 7 | + 2 |
| Bone | 28 | 25 | - 3 | 15 | 12 | - 3 |
| Hodgkins Disease | 33 | 32 | - 1 | 17 | 20 | + 3 |
| Myeloma | 15 | 16 | + 1 | 13 | 10 | - 3 |
| Leukemia | 121 | 101 | -20 | 76 | 74 | - 2 |
| Other & unspecified sites | 112 | 170 | +58 | 110 | 121 | +11 |
| | 2017 | 2129 | | 1967 | 1992 | |

Total Cancer Deaths, 1950..... 3984
Total Cancer Deaths, 1951..... 4121
Male Deaths Increased..... 112
Female Deaths Increased..... 25
Total Increase Deaths from Cancer..... 137

August 16, 1952

polio patient. It will take united community effort to see that every polio patient is treated, rehabilitated and returned to normal function.

MORBIDITY REPORT

| DISEASE | AUG. 1952 | JULY 1952 | AUG. 1951 | MOST CASES FROM THESE COUNTIES |
|---------------------|-----------|-----------|-----------|---|
| Diphtheria | 2 | 0 | 1 | Fayette, Guthrie |
| Typhoid Fever | 4 | 3 | 2 | Audubon, Harrison, Sac (2) |
| Scarlet Fever | 2 | 14 | 12 | Black Hawk, Clinton |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 41 | 145 | 31 | Dubuque, Linn, Polk |
| Whooping Cough .. | 11 | 7 | 52 | Clinton, Des Moines, Wapello |
| Brucellosis | 50 | 45 | 57 | Polk (4), Woodbury (3), others scattered, 2 or 1 to a county |
| Chickenpox | 20 | 79 | 10 | Dubuque, Linn |
| Meningitis men. ... | 3 | 3 | 5 | Scott (2), Sioux (1) |
| Mumps | 42 | 53 | 60 | Black Hawk, Dubuque, Muscatine |
| Poliomyelitis | 1155 | 297 | 140 | Cherokee (34), Monona (40), Plymouth (34), Polk (142), Pottawattamie (51), Sac (43), Woodbury (144) |
| Rabies in Animals . | 13 | 14 | 20 | Polk (2), others scattered 1 to a county |
| Tuberculosis | 46 | 69 | 73 | For the State |
| Gonorrhea | 49 | 24 | 36 | For the State |
| Syphilis | 150 | 55 | 142 | For the State |

EDITORIAL

(Continued from page 504)

vation of oxygen and by changes in the amount of carbon dioxide contained within the blood was to learn certain fundamental facts underlying the production of energy by the receptor cells of the ear. It is hoped that these studies will carry forward and add considerably to studies made by Bornschein and Krejci in 1949.

A recent report* established the oxygen requirements for the ear in order to keep its tiny electrical plant working, and shows the extent of oxygen deprivation which will interfere with its normal efficiency, and, again, the amount of oxygen-lack which will produce permanent damage to the hearing mechanism. Similar results are presented for the effects recorded due to varying the normal amount of carbon dioxide. This information is important to aviators, divers, submarine and caisson workers, physiologists and other research workers concerned with the effect on hearing and upon the metabolism of the inner ear produced by the lack of oxygen or overabundance of carbon dioxide. For instance, a distinct decline in the efficiency of the ear was found to occur when the oxygen in arterial blood fell from 13 cc. of oxygen per 100 cc. of blood to 6 to 8 cc. of oxygen per 100 cc. of blood. This would correspond in rough estimate to the effect of subjecting the animal to an altitude of approximately 16,000 feet. This decline in efficiency was found to be reversible. However, if the process was allowed to continue

* Effects of Changes in Arterial Oxygen and Carbon Dioxide upon Cochlear Microphonics, U. S. Naval Medical Research Laboratory, Report No. 188, 1952.

and the oxygen in the blood fell to less than 2 or 3 cc. per 100 cc. of arterial blood for more than 6 or 8 minutes, permanent damage occurred and complete recovery of the hearing mechanism never took place.

COMMUNITY CHEST

October is *Red Feather* month, the time each year when health and welfare agencies unite in one campaign to raise money for the continuance of their services.



In towns and cities all over the United States and Canada these services for babies and young people, for families, for the ill, the aged and the handicapped are vital to the welfare and happiness of every individual in the community.

The 1952 campaign will in some cities initiate the addition of other agencies which have not previously been associated with the traditional Community Chest fund. This, in itself, makes it more important than ever that physicians assist financially a project that insures the health and welfare services so vital to the community. The fact that the *Red Feather* Campaign includes only the agencies which have been judged by responsible citizens to be doing a worthwhile and important job in the community would guarantee a protection, not a threat, to every doctor's freedom to give.

MID-WEST CLINICAL ASSEMBLY

Iowa physicians are invited to attend the twentieth assembly of the Omaha Mid-West Clinical Society October 27 to 31 at the Hotel Paxton, Omaha.

Nationally prominent physicians participating as guest speakers include Drs. Frank N. Allen, Boston, Mass.; Leo H. Bartemeier, Detroit, Mich.; Rene Caillet, Santa Monica, Calif.; Louis H. Clerf, Philadelphia; L. Henry Garland, San Francisco; Burgess L. Gordon, Philadelphia; H. Relton McCarroll, St. Louis; Donovan J. McCune, Vallejo, Calif.; Samuel F. Marshall, Boston; Ralph A. Reis, Chicago; George A. Schumacher, Burlington, Vt.; Walter M. Simpson, Laguna Beach, Calif.; Henry J. Tumen, Philadelphia, and John M. Waugh, Rochester, Minn.

Among the subjects for panel discussion are obesity, rheumatic disease, childbirth, headache diseases of the thyroid gland and their management and new developments in pulmonary tuberculosis.

Arrangements may be made through the executive office of the Society, 1031 Medical Arts Building, Omaha.

Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 529-36th Street, Des Moines 12, Iowa.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

Dr. John L. McKelvey, Department of Obstetrics and Gynecology, University of Minnesota, discussed "Conclusions from Studies of Maternal Mortality in Minnesota" at the regular meeting of the Black Hawk County Medical Society, September 16 at the Elks' Club, Waterloo.

Dubuque

The ninety-ninth anniversary of the Dubuque County Medical Society was observed September 9, at the Elks' Club, Dubuque. Dr. Eugene Van Epps, Department of Radiology, and Dr. Alson E. Braley, head of the Department of Ophthalmology, State University of Iowa, spoke on "Constipation in Childhood," and "Abuse of Antibiotics in the Treatment of Conjunctival Disease," respectively.

Scott

Dr. James F. Bishop, Davenport, spoke on "Carcoma of the Colon; Early Diagnosis, Treatment and Prognosis," at the September meeting of the Scott County Medical Society held at the Outing Club, Davenport. The Fifty Year Certificates were presented to Drs. William S. Binford, John D. Cantwell, Anthony P. Donohoe and Gordon F. Harkness.

Wapello

Principal speaker for the regular meeting of the Wapello County Medical Society, September 2, was Dr. James B. Brown, Washington University School of Medicine, St. Louis, Mo. Dr. Brown's subject was "General Application of Plastic and Maxillo-Facial Surgery." The group met at St. Joseph's Hospital, Ottumwa.

Woodbury

The Woodbury County Medical Society convened August 8 at the Mayfair Hotel, Sioux City, for a special dinner meeting to consider follow-up care of the polio patient. The 75 doctors in attendance were addressed by Dr. Albert Kitts, regional medical director of the National Foundation for Infantile Paralysis, and by Dr. Wesley H. Burnham, Minneapolis, Minn.

PERSONALS

Dr. Maunis E. Godbey, former Mt. Pleasant resident, will return to Mt. Pleasant to associate with **Dr. Walter A. Sternberg**. Dr. Godbey is a 1948 graduate of the SUI College of Medicine. He completed his internship at Methodist Hospital, Indianapolis, Ind. Later Dr. Godbey returned to the University Hospitals, Iowa City, to serve a 14 month residency in the Department of Otolaryngology.

Dr. Chester R. Goddard, formerly of Guttenberg, has joined **Drs. Andrew W. Bennett** and **Edward W. Paulus**, Iowa City. A 1941 graduate of the SUI College of Medicine, Dr. Goddard served his internship at the Orange County Hospital, Orange, Calif.

Dr. John R. Hyde, formerly of San Francisco, has located in Emmetsburg. He is a 1951 graduate of the Creighton University School of Medicine, Omaha. Dr. Hyde completed his internship at the Southern Pacific Railroad Hospital, San Francisco.

Dr. Fred L. Knowles, Fort Dodge, has been elected a qualified fellow of the International College of Surgeons.

Dr. Kalman J. Kroack, formerly of New Albin, has joined **Drs. Harley G. Feldick** and **LaVerne F. Grams** at the Clinic, Buffalo Center. A 1943 graduate of the SUI College of Medicine, Dr. Kroack interned at St. Francis Hospital, LaCrosse, Wis.

Dr. Jack L. LaRue, formerly of Sioux City, has located in Anita. He was graduated from the SUI College of Medicine, 1950, and interned at St. Joseph Hospital, Sioux City.

Dr. A. S. Owca, formerly of St. Louis, Mo., has opened an office in Centerville. Dr. Owca is a graduate of the Creighton University School of Medicine, Omaha. He served his internship at City Infirmary Hospital, St. Louis.

Dr. Leland H. Prewitt, Ottumwa, was recently inducted as a fellow of the International College of Surgeons.

Dr. Isaac Shohet, formerly of Baghdad, Iraq, has located in Bode. A graduate of the American University School of Medicine, Beirut, Lebanon, Dr. Shohet interned in St. Louis, Mo., served a

year of residency in internal medicine at Lexington, Ky. and completed two years' residency in internal medicine at Iowa Methodist Hospital, Des Moines.

Dr. Richard W. Smith, formerly of Karnes City, Tex., has located in Clarion. A 1937 graduate of Harvard Medical School, Boston, Dr. Smith served a two year internship at Springfield Hospital, Springfield, Mass., followed by surgical residency at the University of Pennsylvania hospitals. He spent a year in surgical residence at Cambridge Hospital, Cambridge, Mass. and a third year in residence for cancer surgery at Pondville Hospital, Norfolk, Va.

Dr. S. Rodmond Smith, formerly of Newington, Virginia, has located in Red Oak. Dr. Smith was graduated from George Washington University School of Medicine, Washington, D. C., in 1951. He completed his internship at St. Luke's Hospital, Cedar Rapids.

MARRIAGE ANNOUNCEMENT

Miss Janet May Sloss, North Bend, Neb., daughter of Mr. and Mrs. James E. Sloss, and **Dr. Rex L. Morgan**, Sioux City, were married August 12 in North Bend. Dr. Morgan is the son of Mr. and Mrs. Glen C. Morgan, Shannon City.

DEATH NOTICES

Dr. Frank Henry Dierker, 74, Fort Madison, died August 19 at his home. A graduate of Keokuk Medical College of Physicians and Surgeons in 1906, Dr. Dierker was a member of the Lee County and Iowa State Medical Societies until the past year.

Dr. Oscar William Okerlin, 79, Essex physician for 50 years, died August 17 in Chariton. Dr. Okerlin was a 1905 graduate of the SUI College of Homeopathic Medicine. He was a life member of the Page County and Iowa State Medical Societies.

Dr. Dan William Shine, 67, died August 18 of a heart attack at his Oelwein home. He was graduated from the SUI College of Medicine in 1914. Dr. Shine was a member of the Fayette County and Iowa State Medical Societies at the time of his death.

Dr. William W. Walvoord, 61, died of a heart attack August 22 at his home in Dunlap. In 1916 he was graduated from the University of Nebraska College of Medicine. Dr. Walvoord, until his health failed, was a member of the Harrison County and Iowa State Medical Societies.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of September 10, 1952

Ackerman, J. H., Clarksville
(Tallahassee, Fla.) ...Senior, Asst. Surg., U.S.P.H.S.

Ashby, J. D., Davenport
(Battle Creek, Mich.)Major, A.U.S.

Bartholomew, R. D., Lake City
(Walnut Creek, Calif.)Lt. (j.g.), U.S.N.R.

Benge, D. K., Dows
(APO San Francisco, Calif.)Capt., U.S.A.

Benton, J. S., Des Moines.....1st. Lt., A.U.S.

Braateliën, N. T., Des Moines
(Camp Carson, Colo.)1st. Lt., U.S.A.F.

Brown, R. C., Mason City
(Kansas City, Kan.)Capt., A.U.S.

Camp, J. R., Thompson
(FPO San Francisco, Calif.)Lt., U.S.N.R.

Carson, R. W., Winterset
(APO San Francisco, Calif.)1st. Lt., A.U.S.

Dalager, R. D., Ottumwa
(Annapolis, Md.)U.S.N.R.

Davidson, M. C., Emmetsburg
(El Paso, Tex.)Col., A.U.S.

Davis, S. K., Des Moines
(Seattle, Wash.)

Donahoe, J. F., Fort Dodge
(Camp Atterbury, Ind.)1st. Lt., U.S.A.F.

Dooly, J. E., Fort Dodge
(Pleasanton, Calif.)Capt., U.S.A.F.

Fitch, R. E., Des Moines
(Bangor, Me.)1st. Lt., U.S.A.F.

From, Paul, West Des Moines
(San Antonio, Texas)1st. Lt., U.S.A.F.

Gladstone, W. S., Jr., Iowa City
(Crestview, Fla.)U.S.A.F.

Greco, D. J., Des Moines
(APO San Francisco, Calif.)1st. Lt., A.U.S.

Gustafson, J. E., Des Moines
(Far East Command)1st. Lt., A.U.S.

Jensen, K. V., Newton
(El Paso, Texas)Capt., U.S.A.F.

Johnson, A. A., Jr., Council Bluffs
(Fort Worth, Texas)1st. Lt., U.S.A.F.

Johnson, F. N., Madrid
(San Antonio, Texas)1st. Lt., U.S.A.F.

Johnson, M. H., Iowa CityCapt. A.U.S.

King, R. E., Des Moines
(APO San Francisco, Calif.)Capt. A.U.S.

Kruse, R. H., Conrad
(Pearl Harbor, T. H.)Lt., U.S.N.R.

Kuehn, W. G., Clarinda
(Oceanside, Calif.)Lt. (j.g.), U.S.N.R.

Kurth, R. J., Waterloo
(Minneapolis, Minn.)Capt., U.S.A.F.

Landis, S. N., Des Moines
(Shreveport, La.)Major, U.S.A.F.

Leiter, E. R. K., Des Moines
(Bangor, Me.)Capt., U.S.A.F.

McCrary, W. A., Lake City.....Capt., A.U.S.

Merkel, B. M., Des Moines
(Greensville, S. C.)Col., U.S.A.F.

Middleton, W. H., Central City
(Quantico, Va.)U.S.N.R.

Mitchell, R. C., Iowa City
(Yorktown, Va.)Lt., U.S.N.R.

Montgomery, A. E., Jefferson
(APO San Francisco, Calif.)Lt. Col., A.U.S.

Mulder, L., Sioux Center
(Sioux Falls, S. D.)Capt., U.S.A.F.

Neagle, P. E., Dubuque
(Sault Ste. Marie, Mich.)Capt., A.U.S.

Nicholson, R. W., Paton
(APO Seattle, Wash.)1st. Lt., A.U.S.

Nordin, C. A., Des Moines
(Lackland Field, Texas)1st. Lt., U.S.A.F.

Odell, J. E., Iowa City
(Seattle, Wash.)Lt., U.S.N.

Ruble, R. L., Nevada
(Camp Chaffee, Ark.)A.U.S.

Saunders, R. J., (Colfax)
(San Antonio, Texas)1st. Lt., U.S.A.F.

Schultz, M. H., Waterloo.....Capt., U.S.A.F.

Shaffer, F. J., Iowa City.....Col., U.S.A.F.

Smith, C. B., Iowa City
(Ft. Sam Houston, Texas)Capt., A.U.S.

Stutsman, R. E., Washington
(Miami, Fla.)Cmdr., U.S.N.

Tempel, P. F., Steamboat Rock.....Capt., A.U.S.

Thistlewaite, E. A., Des Moines
(Riverside, Calif.)1st. Lt., U.S.A.F.

Thomas, J. H., Rock Rapids
(APO San Francisco, Calif.)Capt., U.S.A.F.

Tice, W. K., Iowa City
(Kansas City, Kan.).....1st Lt., A.U.S.

Tyler, D. E., Shenandoah
(Great Lakes, Ill.).....U.S.N.R.

Vincent, J. F., Fort Dodge
(Langley A.F.B., Va.)Capt., U.S.A.F.

von Lackum, L. S., Oelwein
(Great Lakes, Ill.)Lt., U.S.N.R.

Waldmann, E. B., Council Bluffs
(Santa Ana, Calif.)Lt., U.S.N.R.

Walz, D. V., Le Mars
(Sioux Falls, S. D.)1st. Lt., U.S.A.F.

Wehrmacher, W. H., Iowa City
(Oceanside, Calif.)U.S.N.R.

Wiedemeier, J. L., Sioux City
(APO San Francisco, Calif.)1st. Lt., A.U.S.

*Wilkins, D. S., Iowa City
(APO San Francisco, Calif.)Capt., A.U.S.

Witte, H. J., Marathon
(San Francisco, Calif.)Lt. Col., A.U.S.

Woolfolk, J. H., II, Waterloo
(Weaver, S. D.)U.S.A.F.

Young, R. A., Clarion
(Ft. Sam Houston, Tex.)Capt., A.U.S.

Zeilenga, R. H., Orange City
(Madison, Wisc.)1st. Lt., U.S.A.F.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

COMMITTEE ON MENTAL HEALTH

August 18, 1952

The Committee on Mental Health met with the Legislative Committee in the central office Monday morning, August 18, 1952, with the following persons present: Doctors John I. Marker of Davenport, Leo B. Sedlacek of Cedar Rapids, John D. Conner of Nevada, B. T. Whitaker of Boone and H. C. Merillat, F. C. Coleman, A. B. Phillips and Mr. I. W. Myers of Des Moines.

Legislative interests of the Committee on Mental Health were discussed with the Legislative Committee. It favors continuation of screening centers in the mental hospitals but recommends local screening centers also. It also believes mobile clinics would benefit many smaller communities. A change in the law regarding release from mental institutions and establishment of uniform juvenile court laws would also be helpful. A model commitment law should be passed. The committee voted that it would pledge itself to provide a psychiatric speaker for every district meeting of the Iowa Federation of Women's Clubs. The meeting adjourned at 1:00 p. m.

BOARD OF TRUSTEES

August 19, 1952

The Board of Trustees met in the new office Tuesday afternoon, August 19, with the following officers present: Trustees L. A. Coffin of Farmington, J. W. Billingsley of Newton, W. L. Downing of Le Mars; President B. T. Whitaker of Boone; President-elect R. N. Larimer of Sioux City; Secretary A. B. Phillips; Treasurer N. B. Anderson; Dr. Bernard and Don Taylor.

Minutes were read and approved and bills were authorized. Mr. Taylor reported on his activities; Dr. Bernard reported on the television program, lack of progress of the commercial insurance survey and establishment of a speakers' bureau by the State Department of Health.

Minutes of the Subcommittee on Health Information were read and the board voted to summarize them in a bulletin to the membership. It also authorized travel expenses of different representatives to coming meetings, and approved a plan for setting up a loan fund proposed by Dr. G. H. Scanlon of Iowa City, the plan to be submitted to the Executive Council. A loan of \$600 from the Baldrige-Beye Fund was made to Mr. Charles Karr; special items for the new building were ordered purchased, and the meeting adjourned at 4:30 p. m.

A comprehensive report of the recent Public Relations Institute will be carried in the next JOURNAL.

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1952-1953

President Ben T. Whitaker, Boone
President-Elect..... Robert N. Larimer, Sioux City
First Vice President..... Elias B. Howell, Ottumwa
Second Vice President..... Lester C. Kern, Waverly
Secretary..... Allan B. Phillips, Des Moines
Treasurer..... N. Boyd Anderson, Des Moines

COUNCILORS

| | Term Expires |
|--|--------------|
| First District—Cluley C. Hall, Maynard..... | 1955 |
| Second District—Charles H. Cretzmeyer, Algona..... | 1953 |
| Third District—Matthew T. Morton, Estherville..... | 1954 |
| Fourth District—Paul W. Brecher, Storm Lake..... | 1955 |
| Fifth District—Ernest M. Kersten, Fort Dodge..... | 1954 |
| Sixth District—Otis D. Wolfe, Marshalltown..... | 1955 |
| Seventh District—Harold A. Housholder, Winthrop..... | 1953 |
| Eighth District—Clyde A. Boice, Washington, Secretary..... | 1954 |
| Ninth District—Elias B. Howell, Ottumwa..... | 1953 |
| Tenth District—Ivan K. Sayre, St. Charles..... | 1954 |
| Eleventh District—Oscar Alden, Red Oak..... | 1955 |

TRUSTEES

Lonnie A. Coffin, Farmington, Chairman..... 1953
John W. Billingsley, Newton..... 1954
Wendell L. Downing, LeMars..... 1955

DELEGATES TO A. M. A.

| | Term Expires |
|---|-----------------|
| George Braunlich, Davenport..... | January 1, 1955 |
| Julian E. McFarland, Ames..... | January 1, 1953 |
| Gerald V. Caughlan, Council Bluffs..... | January 1, 1954 |

ALTERNATE DELEGATES TO A. M. A.

| | Term Expires |
|------------------------------------|-----------------|
| Frank G. Ober, Burlington..... | January 1, 1955 |
| Ernest M. Kersten, Fort Dodge..... | January 1, 1953 |
| Donovan F. Ward, Dubuque..... | January 1, 1954 |

EXECUTIVE COUNCIL

Ben T. Whitaker, Chairman..... Boone
Robert N. Larimer..... Sioux City
Allan B. Phillips..... Des Moines
N. Boyd Anderson..... Des Moines
Lonnie A. Coffin..... Farmington
John W. Billingsley..... Newton
Wendell L. Downing..... LeMars
Cluley C. Hall..... Maynard
Charles H. Cretzmeyer..... Algona
Matthew T. Morton..... Estherville
Paul W. Brecher..... Storm Lake
Ernest M. Kersten..... Fort Dodge
Otis D. Wolfe..... Marshalltown
Harold A. Housholder..... Winthrop
Clyde A. Boice..... Washington
Elias B. Howell..... Ottumwa
Ivan K. Sayre..... St. Charles
Oscar Alden..... Red Oak
George Braunlich..... Davenport
Julian E. McFarland..... Ames
Gerald V. Caughlan..... Council Bluffs

THE JOURNAL

Everett M. George..... Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

Ben T. Whitaker, Chairman..... Boone
Robert N. Larimer..... Sioux City
Allan B. Phillips..... Des Moines
N. Boyd Anderson..... Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman..... Iowa City
Henry C. Scharnweber..... Boone
Floyd M. Burgeson..... Des Moines

GRIEVANCE COMMITTEE

| | Term Expires |
|------------------------------------|--------------|
| Leo C. Kuhn, Decorah..... | 1954 |
| Leslie W. Swanson, Mason City..... | 1953 |
| Thomas L. Ward, Arnolds Park..... | 1954 |
| John W. Bushnell, Sioux City..... | 1953 |
| Lester D. Powell, Des Moines..... | 1954 |
| S. Dale Porter, Grinnell..... | 1953 |
| Joseph W. Lawrence, Dubuque..... | 1954 |
| William C. Goenne, Davenport..... | 1953 |
| Elmer A. Larsen, Centerville..... | 1954 |
| Lester E. Hooper, Indianola..... | 1953 |
| Charles H. Flynn, Clarinda..... | 1954 |

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman..... Des Moines
John W. Billingsley..... Newton
John D. Conner..... Nevada
Ben T. Whitaker..... Boone
Allan B. Phillips..... Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Donald C. Konzett, Chairman..... Dubuque
F. Harold Entz..... Waterloo
Lee F. Hill..... Des Moines
John H. Randall..... Iowa City
George H. Scanlon..... Iowa City

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines..... 1953
Loren K. Meredith, Des Moines..... 1955
Eugene F. Van Epps, Iowa City..... 1954

COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman..... West Des Moines

Insurance

Martin I. Olsen..... Des Moines

Public Information—Doctor-Patient Relationships

Otto N. Glesne, Chairman..... Fort Dodge
Donovan F. Ward..... Dubuque
Cecil W. Seibert..... Waterloo
Edward H. Files..... Cedar Rapids
William M. Sproul..... Des Moines

Veterans' Affairs

Roy C. Gutch..... Chariton

Allied Professions

James E. Reeder, Chairman..... Sioux City

John B. Thielen.....Fonda
Eugene Smith.....Waterloo

Labor and Industry

Tom D. ThrockmortonDes Moines

Hospital and Professional Relations

Callistus H. Stark, Chairman.....Cedar Rapids
Ernest M. Kersten.....Fort Dodge
Gordon F. Harkness.....Davenport
Richard F. Birge.....Des Moines
Charles T. Maxwell.....Sioux City
Wayne K. Cooper.....Cedar Rapids
Nathaniel G. Alcock.....Iowa City

Relief and Health Agencies

Frank D. McCarthy, Chairman.....Sioux City
Social Welfare—Channing Smith.....Granger
TB and Heart—Ralph E. Smiley.....Mason City
Polio—Don H. Penly.....Cedar Falls
Crippled Children, Cancer, Red Cross, Women's Clubs,
AAUW, etc.—John C. De Meulenaere.....Grinnell

Health Education

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—

John D. Conner.....Nevada
Henry C. Scharnweber.....Boone
John J. Shurts.....Eldora

Industrial Health

Raymond F. Frech, Chairman.....Newton
Howard H. Smead.....Des Moines
Stanley T. Moen.....Cedar Rapids
Christian B. Luginbuhl.....Des Moines
Harold A. Spilman.....Ottumwa
Carl J. Lohmann.....Burlington
Leo J. Miltner.....Davenport
Harry A. Amesbury.....Clinton

Rural Health

Dwight G. Sattler, Chairman.....Kalona
Elmer A. Larsen.....Centerville
Bruce F. Howar.....Webster City
James M. Tierney.....Carroll
Robert S. Jaggard.....Oelwein

Geriatrics

Charles V. Edwards.....Council Bluffs

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmund F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Iowa City
J. Donald Hennessy.....Council Bluffs
Richard F. Birge.....Des Moines

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Joseph G. Fellows, Chairman.....Ames
Cecil V. Hamilton.....Garner
J. Stewart Jackson.....Mount Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids
Marcus B. Emmons.....Clinton
Charles C. Graves.....Des Moines
William E. Ash.....Council Bluffs
Gerald R. Rausch.....Sioux City

NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

John W. Ferguson, Chairman.....Newton
Edward M. Honke.....Sioux City
Frank G. Ober.....Burlington
William I. Evans.....Sac City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Rubin H. Flocks.....Iowa City
Willard S. Phetepplace.....Davenport

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Willis M. Fowler.....Iowa City
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Ralph E. Smiley, Chairman.....Mason City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
William Spear.....Oakdale

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, NOVEMBER, 1952

No. 11

MEDICAL RESPONSIBILITY TO THE GLAUCOMA PATIENT

ALSON E. BRALEY, M.D.
IOWA CITY

THERE ARE 31,000 Americans blind from glaucoma. This represents 12 per cent of the total of 160,000 blind persons in the United States. Each year glaucoma produces blindness in more than 2,600 individuals; more than any other ocular disease. These figures do not include those persons whose vision has been reduced by glaucoma to 20/200 or less or whose field of vision has been reduced to an angle of 20 degrees or less. A recent survey indicates that one person out of 40 in the age group above forty has unrecognized and undiagnosed chronic simple glaucoma. This would indicate that an estimated 800,000 people have glaucoma. Since most glaucoma can be controlled and useful vision retained, early diagnosis is essential. In many respects the early diagnosis of glaucoma is like cancer. Early treatment is essential in order to maintain good vision and adequate field.

TYPES OF GLAUCOMA

All glaucoma is produced by some disturbance in the normal pressure regulating mechanism of the eye. The normal pressure of the eye varies with individuals, but is usually about 20 to 25 mm. of mercury. This pressure in the eye is a function of the fluids of the eye and the blood in the blood vessels of the eye. Of the ocular fluids, the aqueous in the anterior chamber seems to be the most important in maintaining the intraocular pressure. This aqueous is formed by diffusion from the blood vessels, and is secreted by the ciliary body. Since the transparent structures of the eye (cornea and lens) are void of blood vessels, they must maintain their nutrition from the aqueous humor or similar sources. As long as the rate of production and absorption of aqueous are nicely balanced, the intraocular pressure is maintained at constant level. Anything that

interferes with the formation or absorption of aqueous will result in changes in intraocular pressure. Whenever the intraocular pressure becomes elevated for long periods and remains at a fairly constant high level, the eye is said to have glaucoma. When an obvious cause is found for the elevated intraocular pressure, then we have a secondary glaucoma. If no obvious cause is found, the disease is called primary.

The tendency at the present time is to divide primary glaucoma into two types: a so-called shallow chamber glaucoma and a deep chamber glaucoma. Studies thus far suggest that most primary glaucoma is caused by some disturbance in the absorption of aqueous from the eye. Since there is a need for more nutrient fluid passing through the eye, if the absorption is disturbed, a vicious cycle may be formed. There may be some tendency for increased formation at the same time the disturbance is present in the absorption.

It now appears that a good deal of the aqueous absorption takes place in the chamber angle through the canal of Schlemm and the meshwork of the iris angle (fig. 1). Anything that will embarrass this angle may cause glaucoma.

The shallow chamber glaucoma is most likely to develop into acute glaucoma. The shallow chamber predisposes to the development of glaucoma because the iris comes forward to interfere with the absorption of aqueous. The iris may adhere to the posterior surface of the cornea, especially near the chamber angle. This causes a sudden rise in intraocular pressure so that the person will usually seek medical aid at once. The symptoms are so varied they may be mistaken for acute gastric disturbance, facial neuralgia or acute sinusitis. The predominant symptoms are:

1. Reduction to poor vision.
2. Acute headache above, behind, or in one eye.
3. Severe nausea.
4. Projectile vomiting.
5. Halos or rainbow colors around lights.
6. Neuralgic pain in face and head.

The findings in the eye are:

1. Poor vision or only light perception.
2. Marked hyperemia of ocular blood vessels.

From the Department of Ophthalmology, College of Medicine, State University of Iowa, Iowa City.

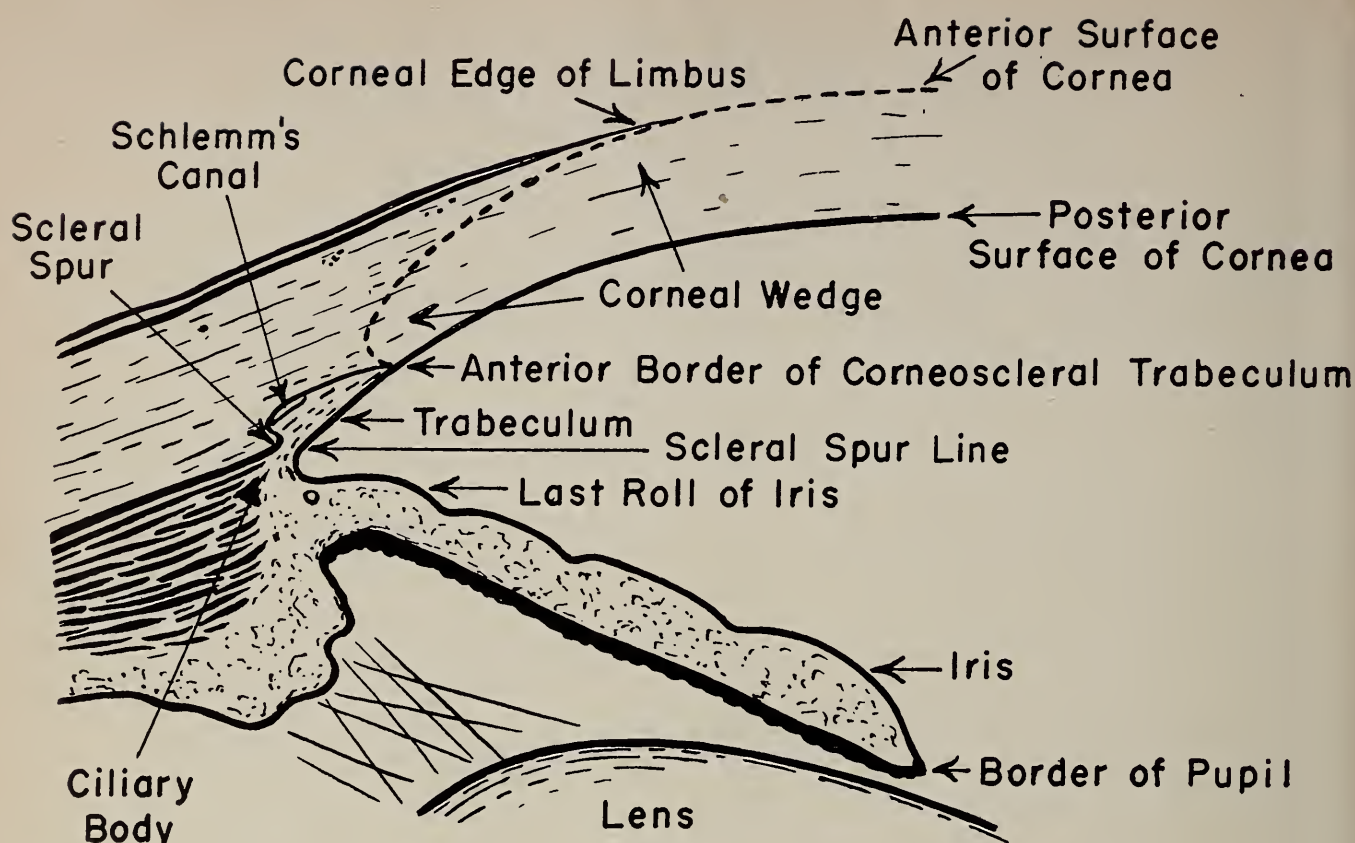


Figure 1

3. Dilation of the pupil and sluggish reaction to light.

4. Loss of corneal luster (steamy). (Edema and cloudiness of cornea.)

5. Elevated tension (eye feels like stone).

6. Shallow anterior chamber.

Although there are medical and surgical means of treating acute glaucoma, a good deal of damage can result to the optic nerve from the prolonged elevated tension. The best treatment would be prevention of the acute attack.

Glaucomatous eyes are usually small and hyperopic, with a shallow anterior chamber. It occurs in emotional individuals who tend to be nervous and unstable. In such individuals the acute attack may be precipitated by giving belladonna or an atropine-like compound by mouth. There may be prodromal symptoms which should not be slighted. These symptoms include photophobia and transient, slight attacks of pain in the eyes, especially early in the morning or late at night. Dull headache on awakening in the morning and halos around street lights on leaving a movie may also be important symptoms.

Every patient with shallow anterior chambers should have one of the provocative tests. One of the best tests is the so-called dark room test. The intraocular tension is measured during the routine eye examination. The patient is then placed in a brightly lit room for one-half to one hour; following this, in a totally dark room for one hour. Next, the intraocular pressure is measured in a dimly lit room at hourly intervals for the next two

hours. A rise of tension usually occurs if the iris partially blocks the chamber angle.

While acute glaucoma severely endangers vision, it is the chronic simple glaucoma that works so insidiously that it destroys sight in the complacent patient. This type of glaucoma could be termed "hidden" glaucoma, and is the responsibility of the entire medical profession. Simple glaucoma advances so slowly, without symptoms, that many of our patients are examined for the first time after they have lost considerable field or are blind in one eye. There may be early symptoms, however, and these should be evaluated very carefully. Excess tearing may be an early symptom.

One symptom that may be of some value is discomfort after use of the eyes in low illumination. While this symptom is prevalent in all people after the age of forty because of presbyopia, it should receive attention. Other common symptoms are frequent change of eye glasses, early age presbyopia (before forty-five years), and slight eye ache or headache on awakening. Halos around lights and visual disturbances are late symptoms.

The majority of the cases of simple glaucoma are deep chamber glaucoma. The simple glaucoma is usually associated with a slight elevation of the intraocular tension. The disease picture is entirely different from that of acute glaucoma. There is little or no pain, and the rise in intraocular pressure is so slow that the eye attempts to compensate for it. The tension usually varies from normal to 35 to 40 mm. of mercury during

the day, the highest pressure being recorded early in the morning. As the pressure persists it produces a pressure atrophy of the optic nerve. This atrophy, (so-called glaucomatous), characteristically produces the distinctive cupping of the optic disc. While the pressure is elevated in the eye the normal retinal vessels are pushed to the nasal side of the disc and the normal cup becomes broader. As the cup broadens the nerve tissue is destroyed and the characteristic atrophy develops. Eventually the patient recognizes the field loss which develops with the loss of nerve fibers, and seeks aid. The early field changes are quite characteristic as they progress. Confrontation fields are not of much value early in the disease, but eventually the peripheral field is lost, leaving a small central or temporal island. The simple glaucoma is most likely caused by an insidious sclerosis of the tissue in the chamber angle over the drainage canal of Schlemm.

Many tests have been devised in an attempt to ferret out the cases of glaucoma. One such test has been widely publicized by the Ophthalmological Foundation in New York. They have devised a hypertension indicator for use by all medical men to measure the ocular tension as normal, high or low. This test may be worthwhile, but so many cases of early glaucoma have a normal tension during part of the day that the physician and patient may feel secure with one reading. Even in the hands of experts the diagnosis of early glaucoma is a problem.

One test that appears to have some value in the wide angle or simple glaucoma is the "Tonography." This was recently reported by Grant in June, 1951, at the AMA in Atlantic City. The test has been used for a long time by many ophthalmologists, but Grant refined the technic. The tonometer is placed on the eye and the initial pressure is recorded. The instrument is allowed to remain on the eye for four minutes, during which time the pressure in the normal eye will drop as the aqueous is being squeezed out of the eye. The rate and amount of drop in pressure are recorded. These findings are compared with a normal reading, and the rate of outflow of aqueous from the eye may aid in the diagnosis of early glaucoma.

The method most widely used is a 24 hour tension curve. The tension of the eyes is recorded over this period. Any rise during the day over 25 mm. of mercury is considered abnormal. Since in most individuals with glaucoma one eye is more advanced than the other, a difference of 6 to 10 mm. of mercury between the tension in the two eyes may be considered significant.

MANAGEMENT OF GLAUCOMA

Once the diagnosis is made there are many methods of treatment. These may be either medical or surgical. There are a variety of medications used in glaucoma. Nearly all the drugs act

through the parasympathetic or the sympathetic nerve endings in the iris and ciliary body. Most of the common drugs, like eserine, destroy cholinesterase. Nearly all the drugs produce marked miosis of the pupil, with some visual disturbance. Many of the drugs also produce spasm of the ciliary body, with its associated headache. The patient will frequently complain of the discomfort associated with using the miotics. Once the diagnosis of glaucoma is established, every effort should be made to keep the patient on medication indefinitely. If drops are discontinued, further loss of field may occur with each rise in ocular tension. Pilocarpine in 1 to 5 per cent solution may be used three times a day. The drug should be so spaced during the day that control of the pressure is maintained at all times. The drugs are best used upon arising in the morning, upon retiring at night and some time during the day. While the individual is using the medication, the ocular pressure should be recorded at frequent intervals to make sure that it is normalized.

Patients are usually advised to avoid reading in poorly lighted rooms. They should abstain from drinking excessive amounts of water or other fluids, avoid excessive periods in dark rooms and avoid over-excitement, anger and fear.

Early surgical treatment may be advisable, especially in shallow chamber glaucoma, in order to avoid an acute attack. A simple peripheral iridectomy may prevent the acute attack. New operations are devised every year for chronic glaucoma. Most are based on the development of new avenues of aqueous filtration. Nearly all make a new outlet for aqueous drainage.

Since there are so many operations for chronic glaucoma, it goes without saying that all are not successful. It is important to attempt surgery when the pressure is not being controlled by medical methods. When surgery is advisable, valuable time may be lost in waiting because more than one operation may have to be done in order to normalize the pressure.

SUMMARY

One person out of 40 above the age of forty has undiagnosed simple glaucoma. Early diagnosis is essential if useful vision is to be retained with treatment. Our clinic is crowded with cases of glaucoma who are blind in one eye and nearly so in the other. It is estimated that 22,000 new cases of blindness from glaucoma occur every year.

The diagnosis of glaucoma is a medical problem. We should be constantly on the alert to any symptoms or signs, no matter how trivial they may appear. To accomplish this the widest possible contact by the medical profession with the laity is essential.

No medication for glaucoma should ever be discontinued unless the physician can dogmatically say, "You do not have glaucoma!" Periodic

health examinations may help to keep patients from discontinuing medication.

When surgery is needed, it should be done without delay. The choice of operation should be the one most likely to succeed in the hands of the surgeon.

GLAUCOMA AND CATARACT

OTIS D. WOLFE, M.D.

MARSHALLTOWN

THE WHOLE SUBJECT of glaucoma is surrounded by much confusion because there is, as yet, no generally acceptable theory on its etiology. The two principle theories are the mechanical (goniopic) and the neurovascular.

Current literature has many articles on the surgical aspects of glaucoma and cataract, but most of those are under the influence of the neurovascular classification. The purpose of this paper is to approach the problem of glaucoma and cataract from the gonioscopic viewpoint. This discussion will be limited to those cases of wide angle and narrow angle glaucoma, excluding cases of secondary glaucoma due to subluxated lens, traumatic rupture of the lens capsule, endophthalmitis phaco-anaphylactica, etc. It is admitted that a mechanical interpretation has shortcomings and, in many instances, that it is difficult to make a clear-cut differentiation between a normal and near-normal chamber angle. Even an originally open angle may narrow with time.

Neither is this discussion intended to reduce the glaucomas to a level of simple mechanics, for there are definitely some cases of acute hypertension with congestion in which the angle is demonstrably open. Most cases, however, can be differentiated on the appearance of the chamber angle. We shall consider these in some detail.

If cases wherein the cataract gives rise to actual inflammation are excluded, three types of glaucoma are encountered: (1) wide angle with cataract in any stage; (2) narrow angle with immature or mature cataract, and (3) narrow angle with intumescent cataract.

WIDE ANGLE GLAUCOMA AND CATARACT

If the cataractous lens does not cause an inflammation through autolysis, anaphylaxis, etc., the lens can initiate or influence a glaucomatous process in only one manner—by mechanical obstruction to the flow of aqueous. Consequently, if the lens does not alter the ocular fluid dynamics by altered mechanics, it does not influence the glaucoma at all. Furthermore, the simple removal of the lens cannot be expected to favorably influence the glaucomatous process if it was not a factor in the production or aggravation of the glaucoma. Whatever the original level of tension, a cataract extraction alone will not improve the glaucomatous process. Even if one endorses the

neurovascular theory and the principle of a vascular insufficiency, removal of the lens would not accomplish more than a paracentesis or any simple penetrating operation. Since iridectomy is notoriously inadequate in wide angle glaucoma or glaucoma simplex, it is difficult to see how a combined iridectomy and cataract extraction could produce an even more satisfactory result.

Whatever the glaucomatous status before a combined iridectomy and cataract extraction, it will remain the same or become worse. If miotics controlled the tension preoperatively, they will be needed postoperatively. If miotics did not control the tension prior to operation, they will not control it later. The choice for control of the tension and restoration of vision rests with one of two procedures: either a combined cataract extraction and filtering operation, or some type of glaucoma operation, followed by a cataract extraction at a later date. The former procedure is preferred, for reasons to be described.

NARROW ANGLE GLAUCOMA AND CATARACT

In an acute or chronic narrow angle glaucoma, the cataract may or may not be responsible for the glaucoma. The glaucomatous process is the same whether the lens is clear or opaque, unless the opacity is associated with an increase in the volume of the lens. However, whether or not the cataract alters the chamber angle, its removal may widen the angle and restore the egress of the aqueous unless peripheral anterior synechiae have already occluded the angle.

The literature on these cases is extensive, although none of the authors listed indicate gonioscopic findings in their cases. Elschnig¹ and Van Lint² recommended a cataract operation as the first consideration if the tension did not rise above 35 mm. of mercury and could be reduced to 20 mm. with miotics. Spaeth³ advises that a preliminary iridectomy be performed, followed by a cataract extraction at a later date. Kirby⁴ does not believe that a cataract extraction should be performed if the tension is above normal. He advises some type of fistulizing operation followed by a cataract extraction not sooner than six weeks thereafter. In 1945, Guyton⁵ reported extensively on 20 cases in which he drew the following conclusions: If the glaucoma is noncongestive and cannot be controlled with miotics, an anterior fistulizing operation should be performed prior to cataract extraction. If the glaucoma is noncongestive, but can be controlled with miotics, or if it is chronic congestive, a combined cataract extraction should be the initial procedure, and is likely to be the only operation necessary. Guyton did not perform fistulizing operations at the time of cataract extraction because he felt that the delayed reformation of the anterior chamber would promote peripheral anterior synechiae.

The most comprehensive survey in recent literature has been made by Lee and Weih.⁶ Except

for gonioscopic differentiation, they have grouped their cases very carefully, and excellent statistical findings are reported in a variety of circumstances. They summarize their findings as follows:

In cases of chronic noncongestive glaucoma with the intraocular pressure controlled by miotics, regardless of its original height, a combined cataract extraction should be the initial operation. It is likely to be the only procedure necessary. The type of iris surgery, apparently, is unimportant.

If the tension is not higher than 35 mm. of mercury, and a cataract operation is indicated, the extraction may be done without first attempting to control the tension.

If the tension is not controlled by miotics, but a cataract extraction is indicated, a filtering operation combined with a cataract extraction is recommended.

It is desirable to use the intracapsular technic in all cases of cataract extraction with primary glaucoma.

These observations indicate that a combined cataract extraction will probably be the only operation necessary in narrow angle glaucoma without congestion, if the tension can be controlled preoperatively with miotics. If the tension cannot be controlled by miotics, either a combined cataract extraction and filtering operation or a glaucoma operation must be performed. It should be followed by a cataract operation when the eye is perfectly quiet. In the presence of peripheral anterior synechiae, however, consideration should be given to a combined filtering and cataract operation, even if the tension is controlled by miotics. The congested eye should not be traumatized any more than absolutely necessary. It has been shown that any penetrating operation results in the same type of vasomotor reaction that occurs in an attack of acute glaucoma. In the presence of an edematous ciliary body, the trauma of a cataract operation could only aggravate the glaucomatous process. There is undoubtedly greater insult to the ciliary processes when a filtering operation is combined with a cataract extraction. If the patient were seen during the first attack and if the attack did not last longer than 48 hours, it might be assumed that peripheral anterior synechiae had not formed. The subsequent removal of the lens would not likely incite synechiae to a great extent. However, trauma to the eye should be reduced to a minimum whenever congestion is present. Better results will probably follow if the tension is controlled surgically, with the eye quiet before cataract extraction is attempted.

GLAUCOMA DUE TO INTUMESCENT CATARACT

As a rule an intumescent senile cataract does not give rise to ocular hypertension. It is only when the anterior chamber is abnormally narrow that the swollen lens acts as a "natural" pro-

vocative agent. Sternberg and Meyer⁷ made gonioscopic studies on four such cases and found that the unaffected eyes were of the narrow angle type; therefore preglaucomatous.

Glaucoma due to intumescent cataract differs in no way from the ordinary narrow angle glaucoma previously described. Clinically, these cases are usually characterized by a rather acute onset and congestion. Since the mechanical factor causing narrowing of the angle cannot be eliminated by medical means, these eyes do not respond well to miotics. In fact, they usually add to the congestion already present. Some authors have advised removal of the cataract in such cases, especially if seen early in the first attack. In the average case, it seems advisable to control the glaucoma surgically prior to the cataract operation, except perhaps in senile debilitated patients who are poor surgical risks.

CHOICE OF OPERATION

Combined filtering and cataract operations are indicated in these cases: wide angle glaucoma and cataract; noncongestive narrow angle glaucoma with peripheral anterior synechiae, controlled by miotics, and noncongestive narrow angle glaucoma uncontrolled by miotics with or without synechiae, providing the tension is not too high. Combined operations are contraindicated in the presence of congestion or when the tension is extremely high and cannot be reduced. Two-stage operations are indicated in all cases of congestive narrow angle glaucoma and when the tension is extremely high and cannot be reduced.

There are many who oppose combined filtering and cataract operations because of the alleged delay in reformation of the anterior chamber and the consequent development of peripheral anterior synechiae. In my experience, when the chamber is reformed with air or saline at the conclusion of the operation, the incidence of delayed reformation of the chamber is less than the combined delay of reformation in a filtering operation with subsequent cataract extraction. Some oppose combined operations when the tension cannot be reduced to normal. This is a valid objection. However, except when the tension is extremely high, most cases can be reduced to normal in the operation room by retrobulbar injection of novocaine. Intravenous pentothal will further reduce the intraocular pressure in other cases.

There are several arguments which favor combined filtering and cataract operations. The period of hospitalization is no greater than that of a simple cataract extraction, which means a saving of time and expense. There is a valuable psychological advantage in combined surgery because it improves vision. The filtering cicatrix frequently does not function following cataract extraction, even though the filtration bleb has been diligently avoided and the preceding filtering operation was completely successful. Sternberg and Meyer,⁸ and

Callahan⁹ have reported a fairly high incidence of corneal dystrophy in patients who had filtering operations followed by subsequent cataract surgery. Finally, it is much easier to do a combined operation than to perform a cataract extraction on an eye which has previously had a filtering operation.

SUMMARY

An attempt has been made to evaluate the choice of surgery in glaucoma and cataract, based on gonioscopic findings. In wide angle glaucoma, a cataract operation alone will not control the ocular tension and the extraction must be combined with some type of filtering operation. Narrow angle glaucoma without congestion which can be controlled with miotics will respond favorably to a cataract operation alone. If there are peripheral anterior synechiae, a combined filtering operation should be performed. In cases of narrow angle glaucoma in the congestive phase, with or without synechiae, in which tension cannot be controlled with miotics, surgical reduction of the tension should precede subsequent cataract extraction. Glaucoma, secondary to intumescent cataract, occurs only in eyes with a narrow angle. It is essentially a narrow angle glaucoma. Arguments for combined operations for glaucoma and cataract are presented.

BIBLIOGRAPHY

1. Elschnig, H.: *Augenärztliche Operationslehre*: In Graefe, A.; and Saemisch, T.: *Handbuch der augenheilkunde*. Berlin, Julius Springer, 1922, ed. 3, vol. 22, p. 1240.
2. Van Lint, A.: In Bailliant, P.; and others: *Traité d'Ophthalmologie*. Paris, Masson & Cie, 1939, vol. 7, p. 677.
3. Spaeth, E. B.: *The Principles and Practice of Ophthalmic Surgery*. Philadelphia, Lea & Febiger, 1944, ed. 3, p. 593.
4. Kirby, D. B.: Prevention and handling of complications arising during and after cataract extraction. *Arch. Ophthalm.* 25:866-901 (May) 1941.
5. Guyton, J. S.: Choice of operation for primary glaucoma combined with cataract. *Arch. Ophthalm.* 33:265-268 (April) 1945.
6. Lee, O. S., and Weih, J. E.: Results of operation for cataract with primary glaucoma. *Arch. Ophthalm.* 44:275-284 (August) 1950.
7. Sternberg, P.; and Meyer, S. J.: Choice of operation in acute glaucoma secondary to swelling of lens. *Am. J. Ophthalm.* 33:763-768 (May) 1950.
8. Sternberg, P.; and Meyer, S. J.: Corneal dystrophy following intraocular operations. *Arch. Ophthalm.* 46:527-530 (November) 1951.
9. Callahan, A.: Cataract Extraction After Glaucoma Surgery. *Arch. Ophthalm.* 47:132-140 (February) 1952; correction, 47:691-692 (May) 1952.

ARTERIOSCLEROSIS AS SEEN IN DIABETICS

ARTHUR G. LUECK, M.D.

DES MOINES

ARTERIOSCLEROSIS is no different in diabetics than in nondiabetics except that it tends to occur at an earlier age and is much more commonly seen in association with diabetes. There are three distinct abnormalities grouped under the heading of arteriosclerosis. The first, atherosclerosis, involves chiefly the intima. It is characterized by firm yellow plaques which impose on the lumen of the artery, and is readily seen in the aorta. The

lumens of the coronary and cerebral arteries are most endangered by the process. Monckeberg's sclerosis, the second abnormality, consists of degeneration and calcification of the arterial walls, easily identified in hardened superficial vessels such as pipstem radials, tortuous brachials and snake-like temporals. Finally, arteriolar sclerosis, otherwise known as hyperplastic sclerosis, consists of a subendothelial thickening of the intima which is hyaline at first, later fatty. This produces narrowing and obliteration of the intimate vasculature of such vital organs as the kidneys and heart. This change is usually associated with hypertension.

Any one of the subcategories of arteriosclerosis may occur singly in a diabetic, or they may exist combined in the same individual in greater or lesser degree. Whatever underlying processes at work, all three types are frequently associated with diabetes, especially diabetes of long duration. The changes may appear as early as the thirties. They are apt to progress more rapidly than similar changes in older nondiabetic individuals. As the life span of diabetics is prolonged, the incidence of advanced and incapacitating arterial disease is rapidly increasing.

Although the severity of the disordered sugar metabolism would seemingly determine the degree of sclerotic arterial disease, this is not neces-

CLINICAL EVIDENCE OF OCCLUSIVE VASCULAR DISEASE IN DIABETICS

Hypertension.

Palpable and visible sclerosis of surface arteries.

Diminished pulsation of dorsalis pedis and anterior tibialis.

Palpable and measurable (by oscillometry) diminution.

Effects: coldness, red and shiny skin, claudication, pain, gangrene.

Renal disease. Albuminuria.

Late effects: progressive impairment of renal function. (Kimmelstiel-Wilson's disease).

Retinal involvement. Capillary proliferation, hemorrhage, waxy exudates; venous sclerosis, aneurysmal dilatation.

Coronary sclerosis. Angina. Occlusion.

Neuropathy.

Sensory changes: numbness, tingling, paresthesias, pain.

Neuromuscular dysfunction: cramps, tenderness, weakness, paresis, shooting pains, diminished tendon reflexes.

Autonomic nerve disease: edema, decreased or absent sweating, night sweats, irregular or sluggish pupils.

Orthostatic hypotension and/or tachycardia: faintness, dizziness, postural syncope.

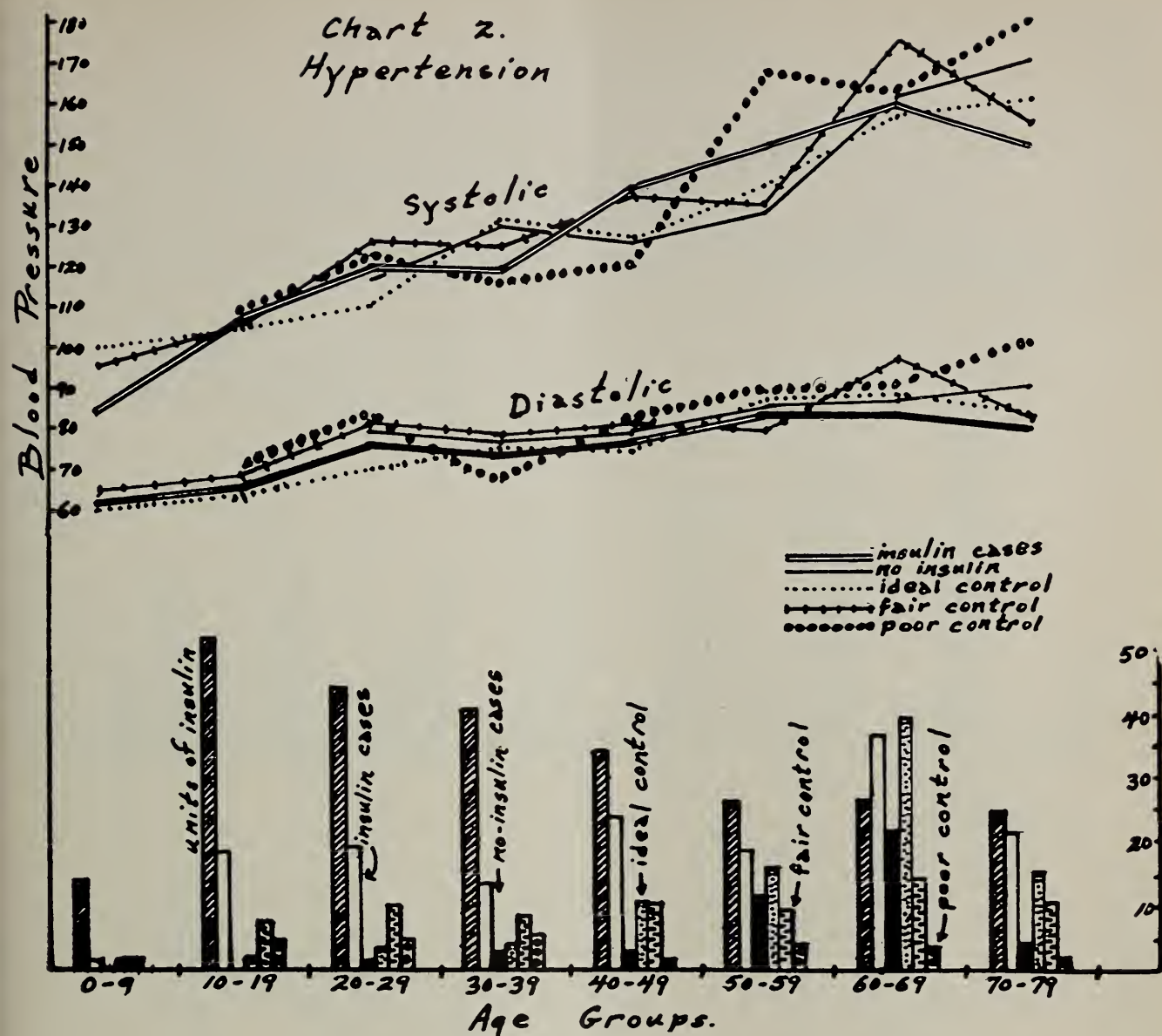
Genitourinary and sphincter disturbances: impotence, urinary or fecal incontinence, atonic bladder.

Gastrointestinal dysfunction: severe constipation, nocturnal diarrhea, anorexia and nausea.

Bone and joint disease: the "neuropathic foot".

CHART 1.

sarily the case. Often the most advanced forms of arteriosclerosis accompany the mildest forms of diabetes; on the other hand, the most severe diabetes is frequently seen in patients with no detectable vascular disease. The implication is that the defect in carbohydrate metabolism is not responsible for the prevalence of arterial disease.



In their earliest stages, sclerotic arterial changes present no obvious clinical phenomena. Often they are present for some time before they become evident. The most common findings of single or combination occurrence are listed in chart 1.

In an attempt to clarify the relationship between the severity of diabetes, its duration and the development of vascular degenerative changes, a series of 200 consecutive, unselected diabetics of all ages was subjected to special scrutiny at the time of routine office examination. The results are graphed on a series of charts.

Consider first the vertical columns along the bottom of the graph. It is noteworthy that the teen-age group requires the most insulin and that the older groups tend to require less. The number of diabetics who are able to get along without insulin is less in the age groups under 50 than in the older groups. Diabetes "control" is difficult to define; each observer has his own criteria for determining this factor. For the purpose of this

study, control is defined as follows: (1) *ideal*—consistently negative urines in the postprandial as well as the fasting state, with postprandial blood sugars consistently below 170 milligrams, a condition frequently not possible in those requiring insulin; (2) *fair*—urine tests usually negative, but allowed to spill 0.25 to 0.50 per cent up to once daily to avoid insulin reactions; postprandial blood sugars consistently below 250 milligrams; (3) *poor*—individuals who either will not or cannot keep their glycosuria below 0.75 per cent and whose blood sugar after meals varies widely, usually 250 to 400 milligrams. The cause of this state may be carelessness, but more often it is due to brittleness of the diabetes so that severe insulin reactions occur unless the urine contains considerable sugar.

Looking again at the chart, it will be seen that ideal control was seldom seen under the age of 20, often not until after 40. Beyond 60, when the mildest type of diabetes is found, ideal control is the rule. Fair control appears uniform throughout

Chart 3.
Albuminuria

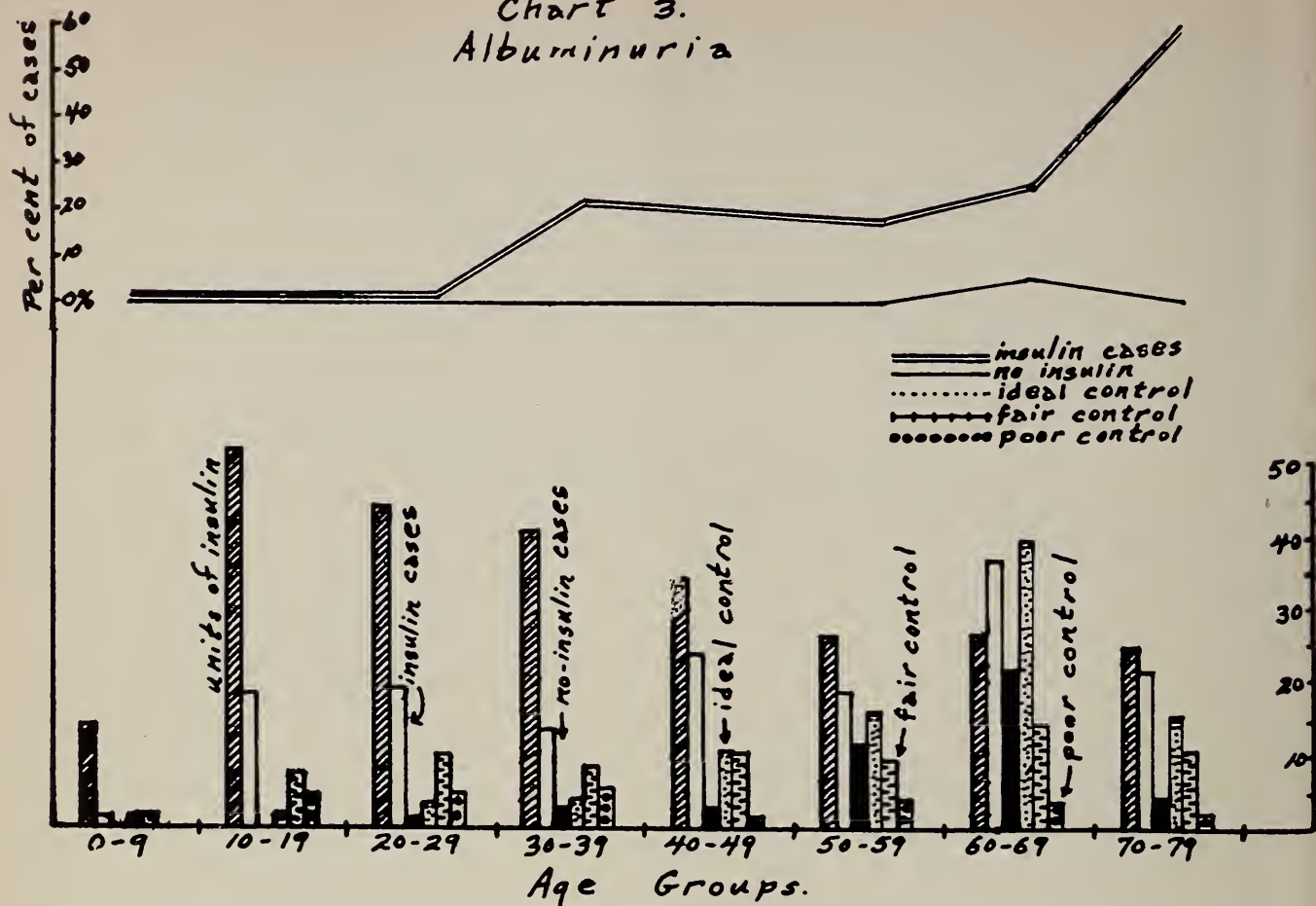
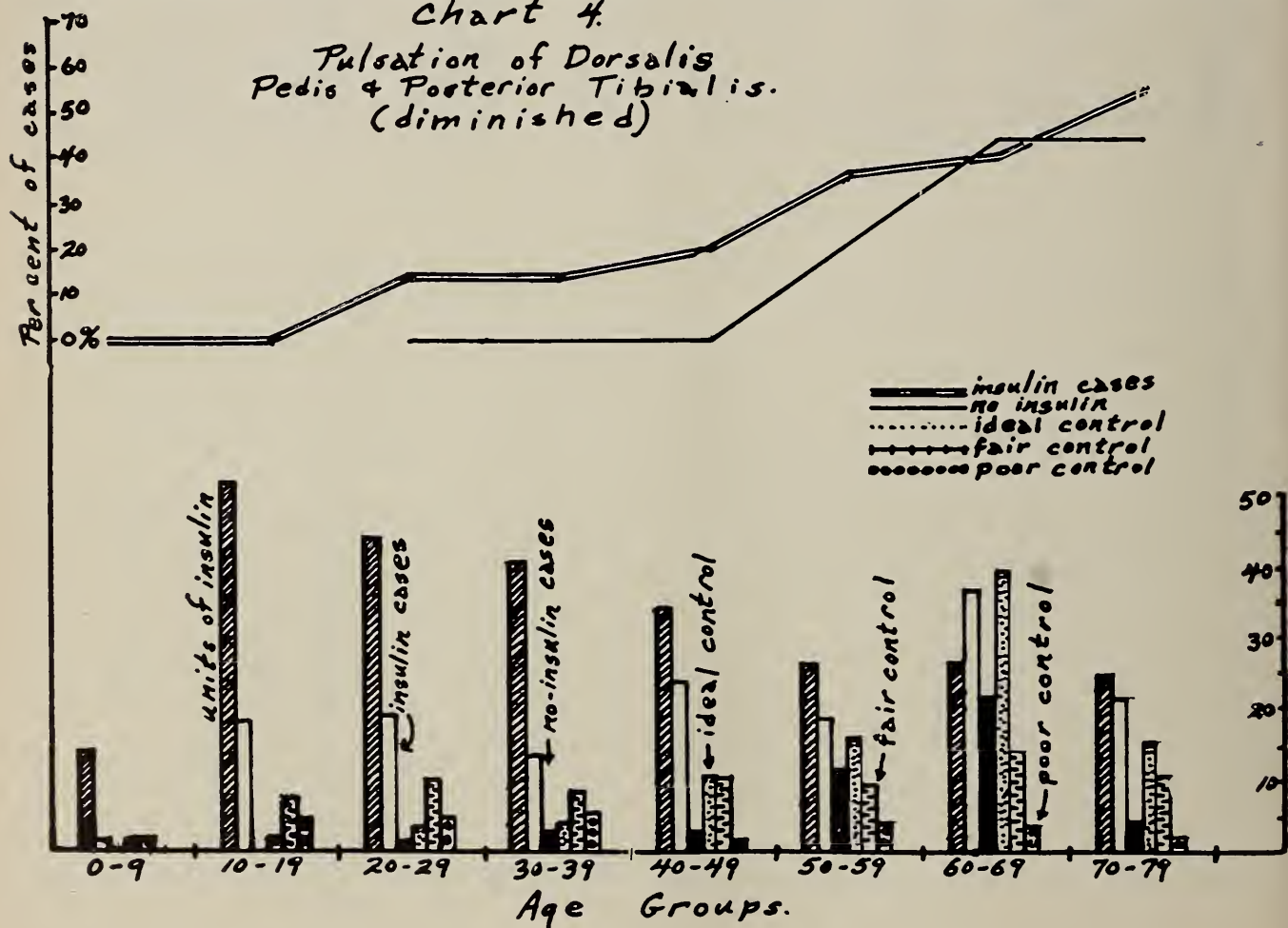


Chart 4.
Pulsation of Dorsalis
Pedis & Posterior Tibialis.
(diminished)



the age groups, but poor control is disproportionately high under the age of 40. A glance at the blood pressure levels shows that the systolic and diastolic pressures of the insulin users are not remarkably different from those of the nonusers. Those requiring insulin are naturally considered to be the more severe diabetics. The level of control has no discernible effect.

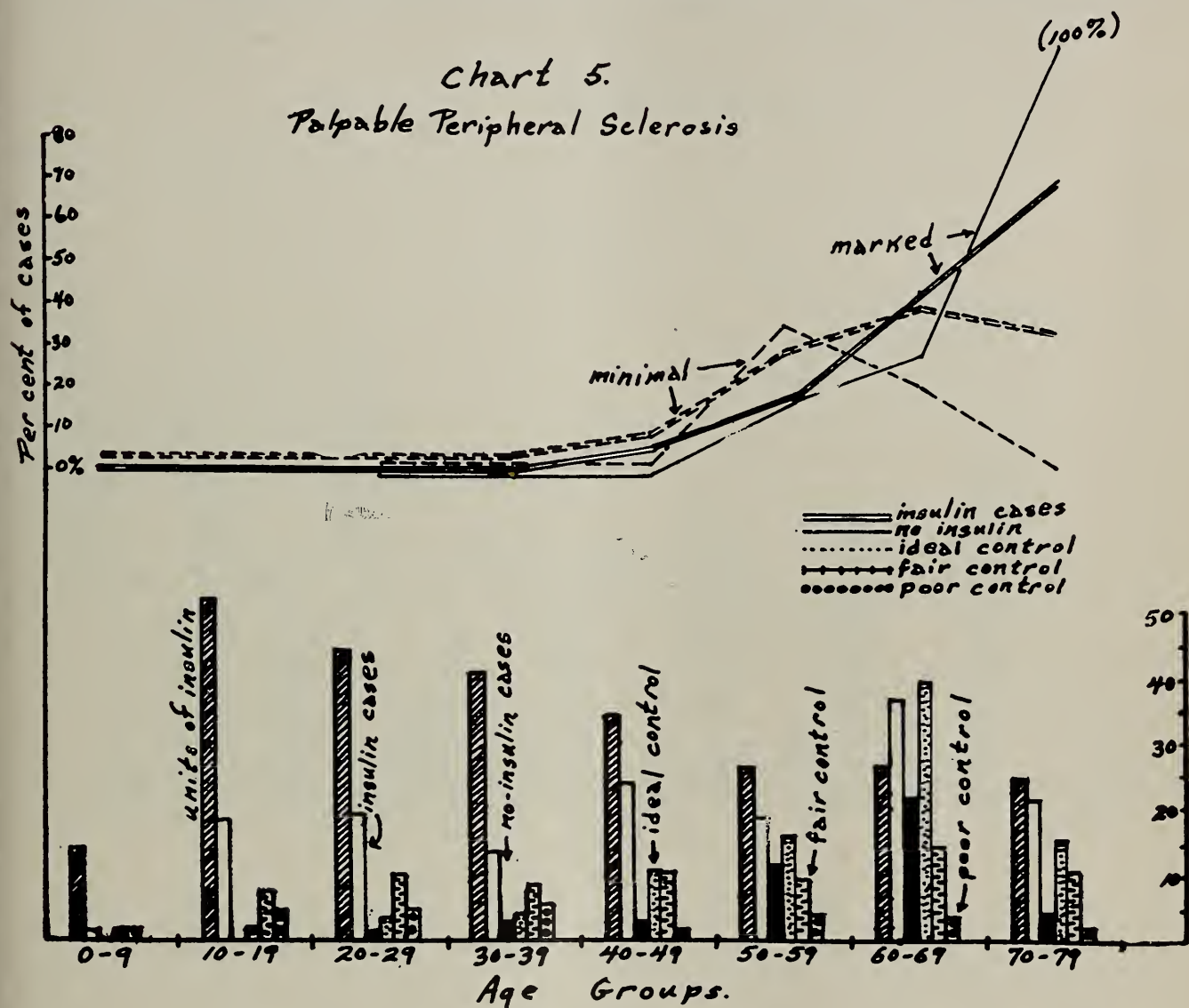
Albuminuria begins to appear after the age of 30 in diabetics requiring insulin, and seems to

fallibility. Here again, the relentless progress seems unchanged by our classification of mildness or severity of the diabetes.

Neuropathic changes occur more consistently among those requiring insulin, indicating a preponderance of neuropathic changes in the more severe types.

The next series of graphs was prepared in an attempt to disclose what effect the degree of control might have upon the vascular degenerative

Chart 5.
Palpable Peripheral Sclerosis



be more frequent in older groups. It was rarely seen in this series among the milder noninsulin cases.

Pulsation of the foot and leg arteries (dorsalis pedis and posterior tibialis) is not easy to measure by tactile sense only. No oscillometric studies were undertaken. Allowing for the errors of judgement introduced by the tactile method, this study indicates no consistent difference in the diminution of the distal arteries between the mild and severe types of diabetes except that it may begin earlier in the severe group. It increases progressively with age in both groups.

Estimation of the degree of sclerosis of the surface arteries is also subject to the criticism of

changes as diabetic patients progressed in years.

Consider first the vertical columns along the bottom of the graph. The proportion of ideally controlled cases, contrasted with lesser degrees of control, tends to drop as the years go by. As the element of human nature creeps in, carelessness becomes more common. There is also a tendency for diabetes to become gradually more unmanageable in the individuals, as time passes. Note also that no poorly controlled diabetics appear in the groups beyond 24 years of age. Apparently none lived that long. The average blood pressure levels are about the same for each type of control.

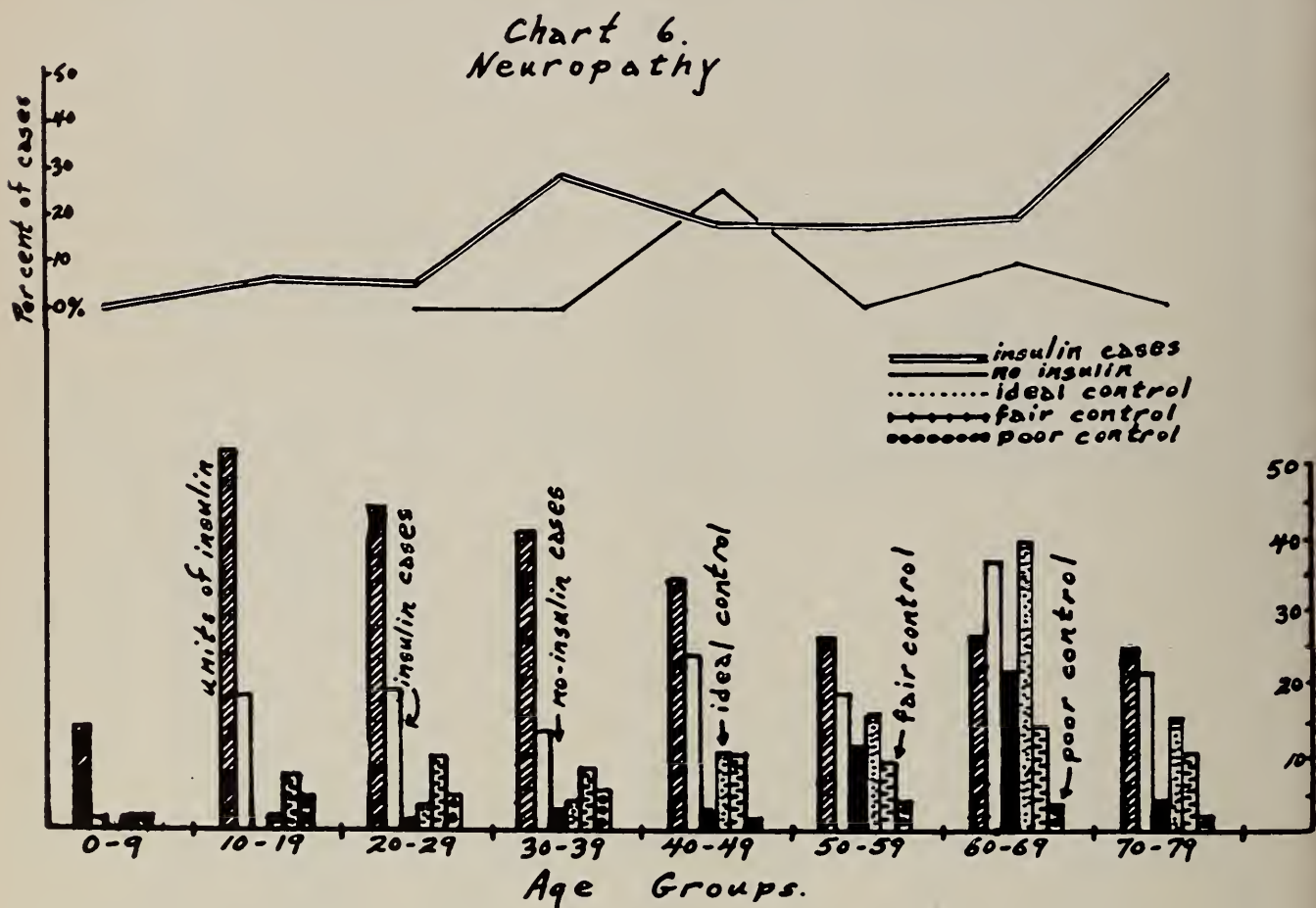
The dotted line on the albuminuria chart rep-

representing the poor control group appears to be headed higher than the others. It is quite possible that the mortality rate due to Kimmelstiel-Wilson's disease is extremely high after diabetes has existed under such conditions for 20 or more years. The peak incidence of albuminuria occurs after diabetes has existed 15 years, regardless of the type of control. Beyond that time it is not likely to occur. Just why this group is immune is hard to explain.

No significant trends are seen regarding the

because there were a great many diabetics in my practice who, for one reason or another, were poorly controlled. I wanted to know how much harm their cardiovascular-renal system was undergoing because of this poor control and I needed to know the conditions for insisting on ideal control. I am satisfied that the general trends of these charts have answered my questions.

A study of the graphs in this series naturally leads one to ask why, in view of the data presented here, should a diabetic bother to keep



development of occlusive arterial disease in the legs.

The degree of control of diabetes has no demonstrable effect on the rapidity of sclerotic change occurring in the superficial vessels. If anything, this graph shows more sclerosis in well-controlled cases. Why this paradox? Older diabetics are easily controlled, as a rule, and they naturally have a higher incidence of sclerosis.

After diabetes has existed for 15 years, those who maintain ideal control tend to have less evidence of neuropathic change than those who are unable to keep good control.

This chart shows the well-known higher incidence of coronary artery disease among women diabetics.

COMMENT

This analysis was begun in the fall of 1951

careful control of his hyperglycemia and glycosuria? It should first be pointed out that this survey covers only the degenerative vascular changes associated with diabetes. It does not include the effect of control on infection, sterility and general well-being. Perhaps the best reason why good control should be insisted upon is to avoid the complications of acidosis: weight loss, morbidity and coma.

CONCLUSION

A series of 200 consecutive, unselected diabetics was studied at the time of routine office check-ups for evidence of vascular degenerative changes. Albuminuria occurred more frequently among the more severe types of diabetes (requiring insulin). Neuropathic changes, presumably due to insufficiency of the vasa nervorum, seem to occur

Chart 7.
Hypertension

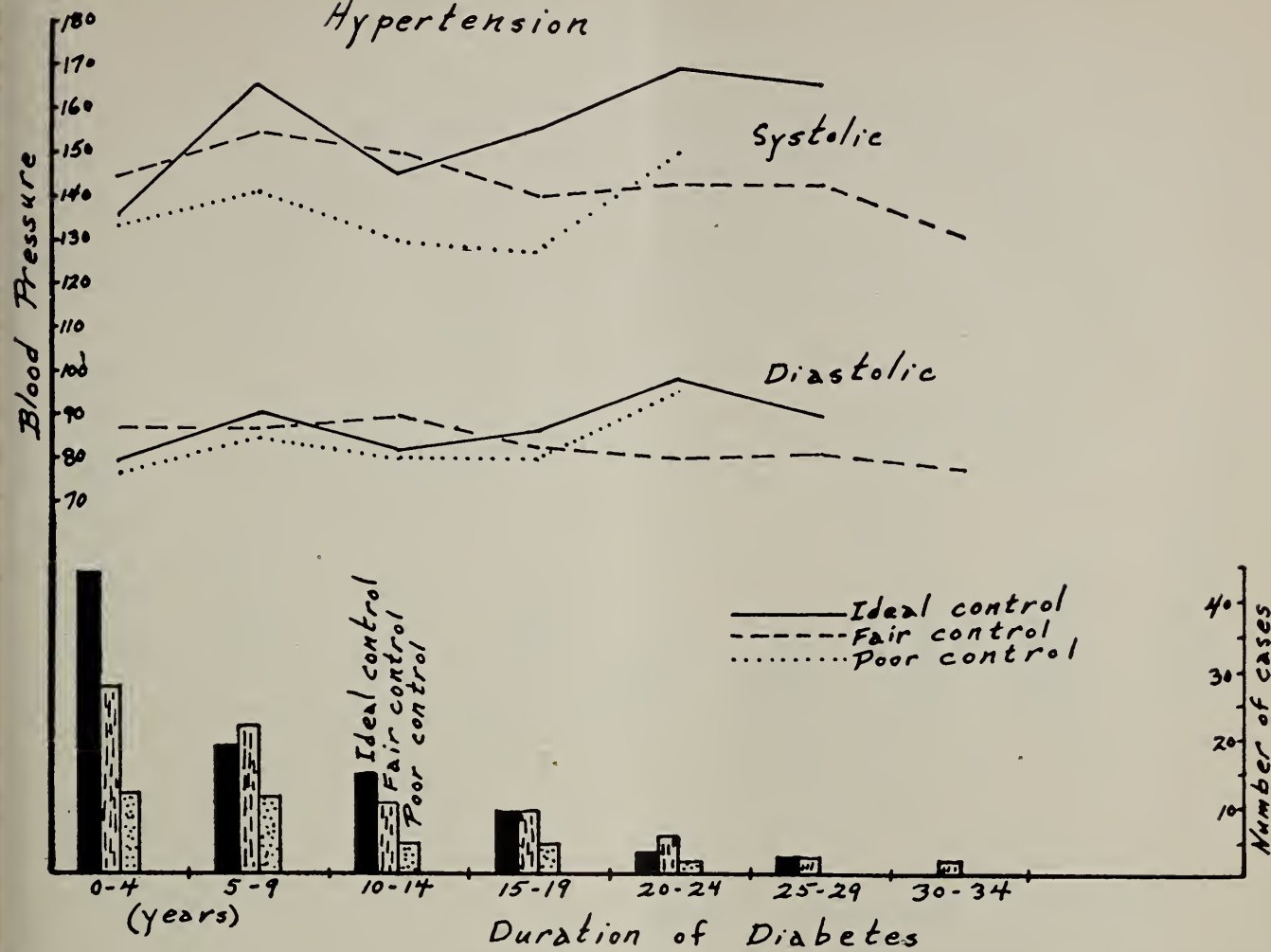


Chart 8. Albuminuria

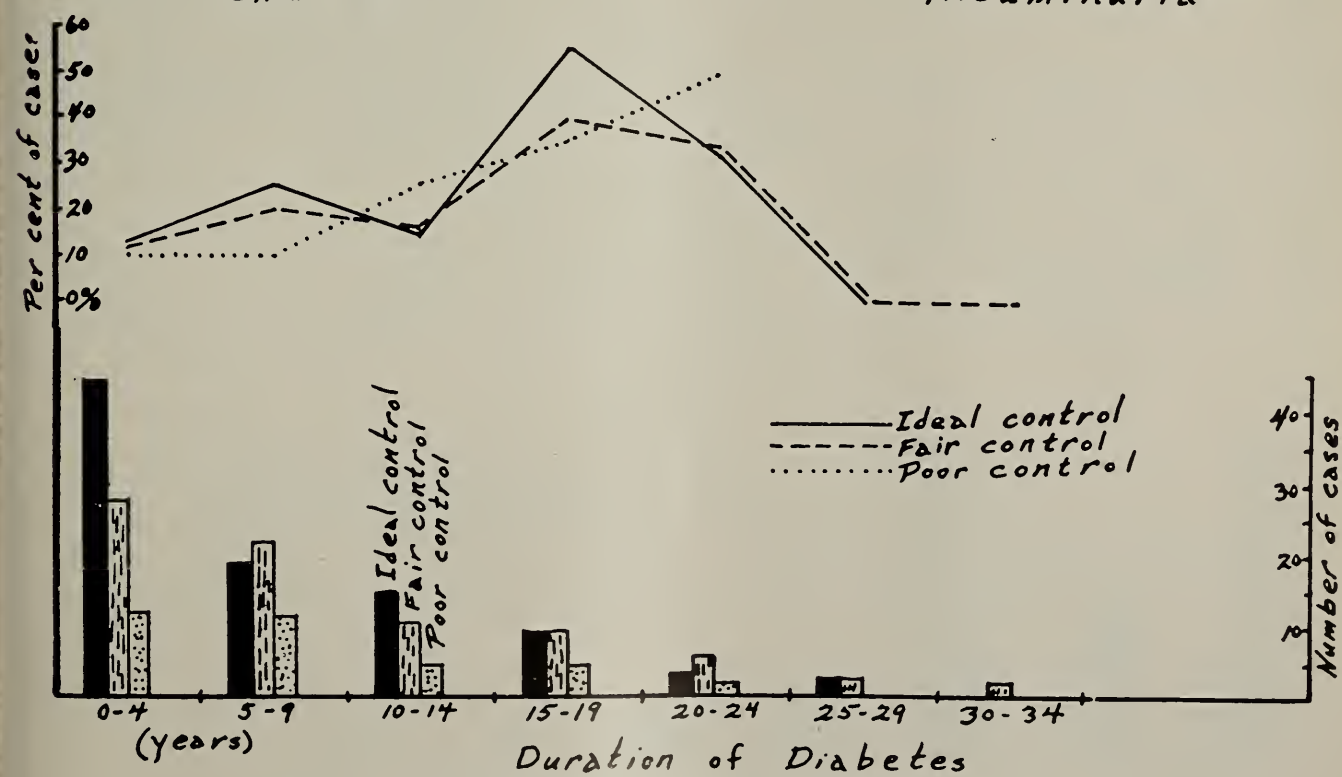


Chart 9.
Pulsation of Dorsalis Pedis + Post. Tibialis

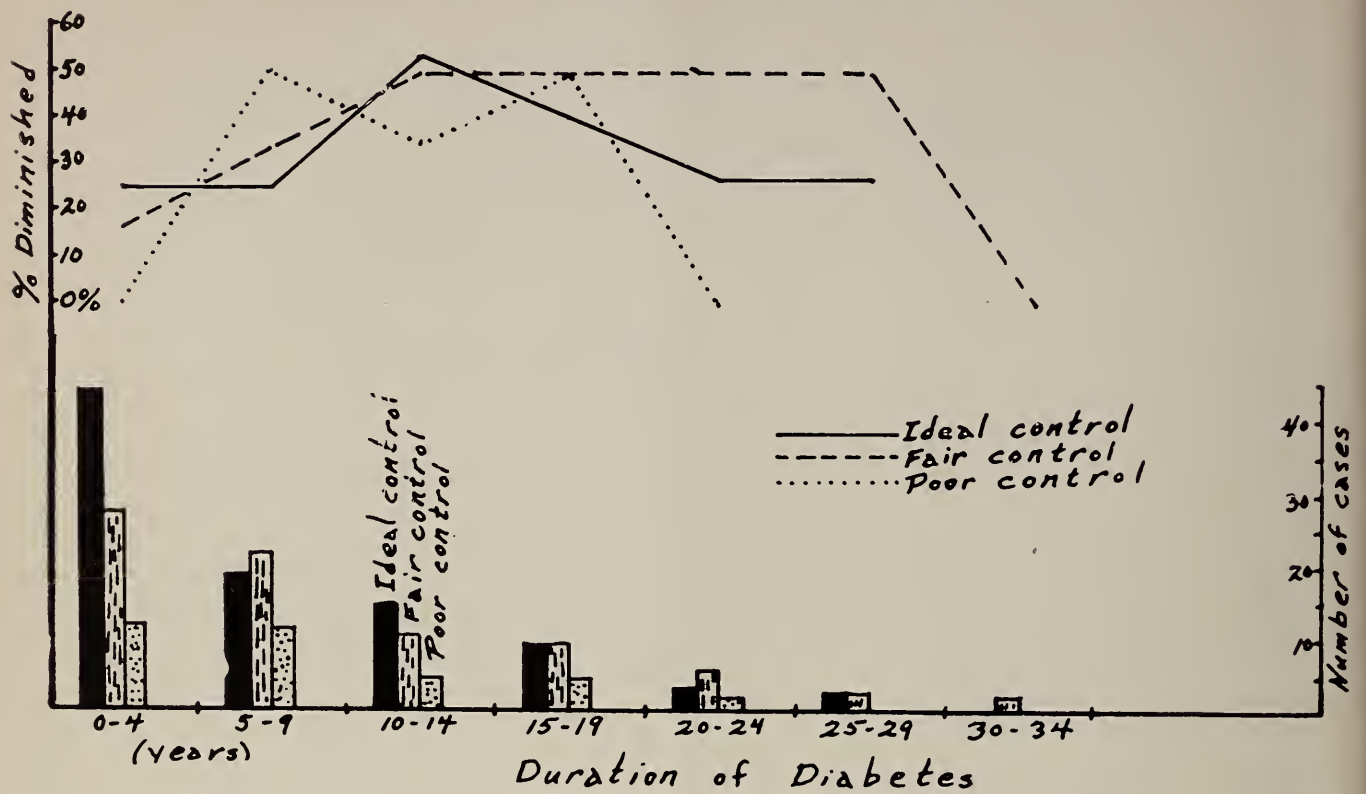
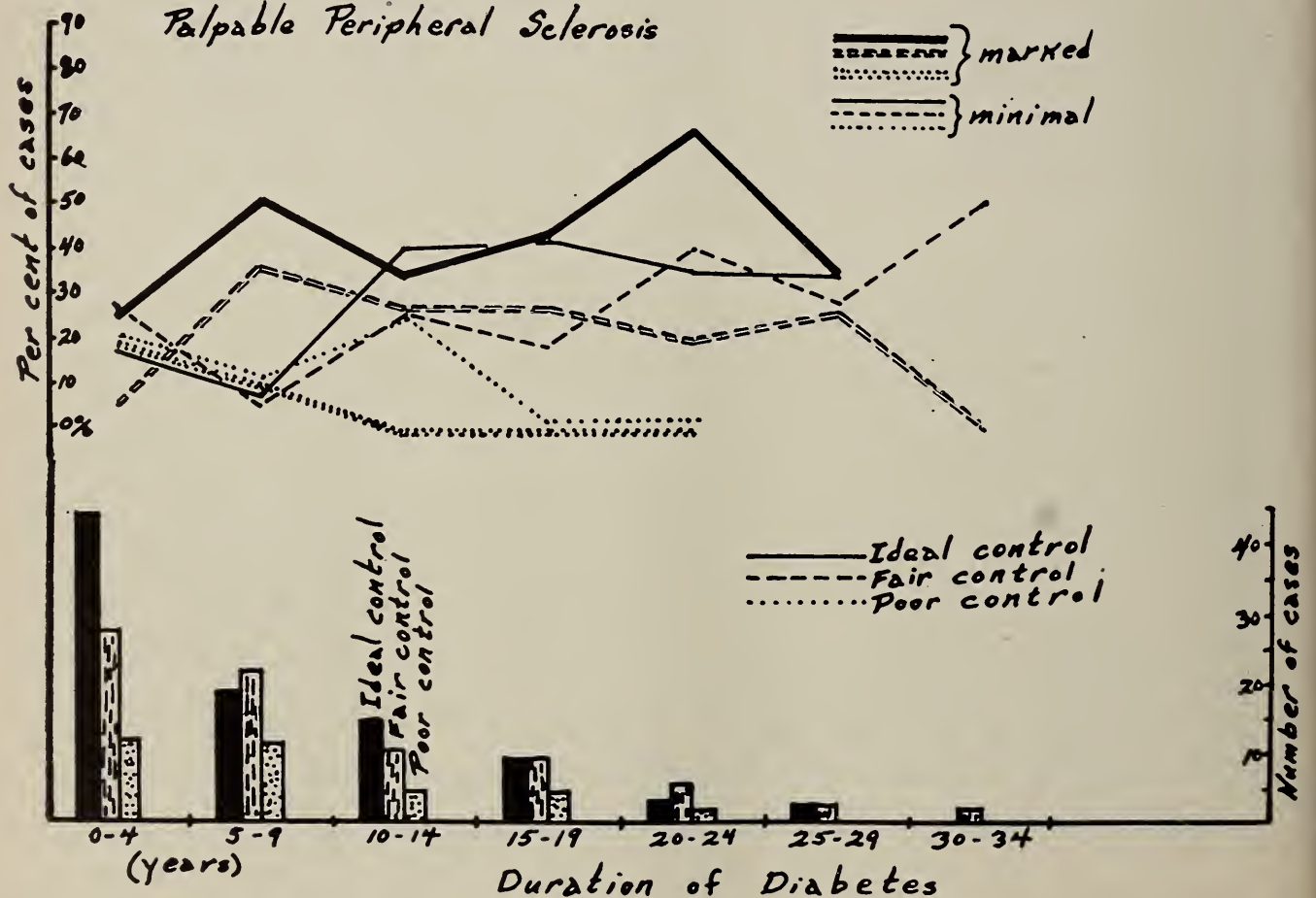
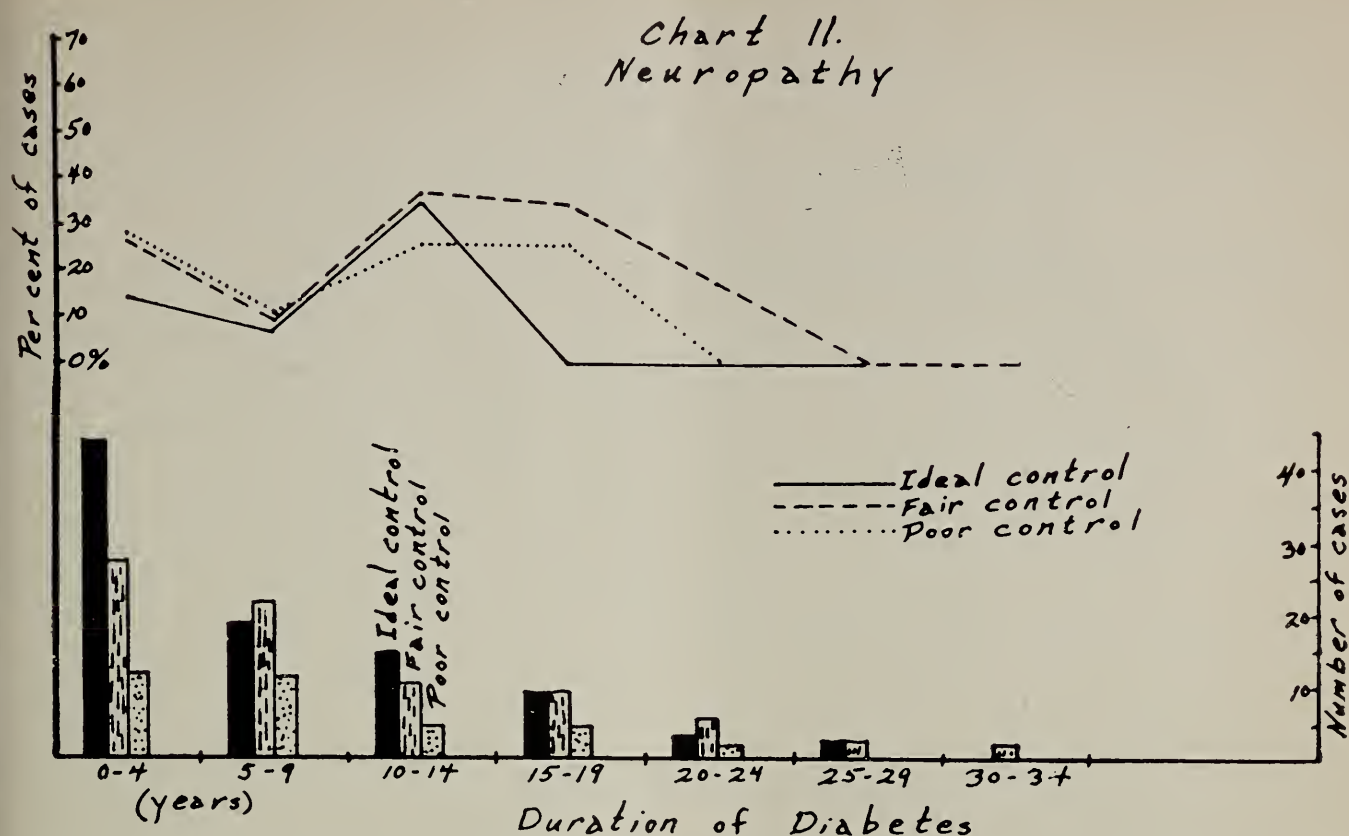


Chart 10
Palpable Peripheral Sclerosis





MISCELLANEOUS VASCULAR CHANGES

| | Cases | Av. age | Average duration | Insulin | (Control) | | |
|------------------|----------|---------|------------------|---------|-----------|-------|-------|
| | | | | | Ideal | Fair | Poor |
| Retinopathy | 24(12%) | | 15.5 | 21(87%) | 50.0% | 37.5% | 12.5% |
| Coronary disease | 17(8.5%) | 64.9 | 8.2 | 14(82%) | 64.6% | 17.7% | 17.7% |
| Men | 9(4.5%) | 64.8 | 10.0 | | | | |
| Women | 8(4.0%) | 65.0 | 6.1 | | | | |
| C.V.A. | 14(7%) | 65.5 | 7.6 | 12(86%) | 42.8% | 42.8% | 14.4% |
| Men | 4(2%) | 62.0 | 5.0 | | | | |
| Women | 10(5%) | 66.8 | 8.7 | | | | |

Chart 12.

oftener in severe grades of diabetes and in those not ideally controlled. Aside from these small differences, no serious damage to the vascular system appears to result from inability to maintain a normal blood sugar and a sugar-free urine.

MULTIPLE SCLEROSIS

In order to coordinate current methods of treatment for patients afflicted with multiple sclerosis, the National Multiple Sclerosis Society has pre-

pared four manuals for distribution to physicians. These manuals deal with:

1. Independently ambulatory patients
2. Patients ambulatory with canes and crutches
3. Wheel chair patients
4. Care of bed patients

All of these publications are available without cost upon request of the physician, providing he will designate which manuals are appropriate to the needs of his patients. Address inquiries to the National Multiple Sclerosis Society, 270 Park Avenue, Suite 7G, New York 17, New York.

DIABETES AND PREGNANCY

ADDISON W. BROWN, M.D.

AND

MILTON S. MARK, M.D.

DES MOINES

WHEN PREGNANCY OCCURS in the diabetic patient, a relatively new complication presents itself. Before the days of the discovery of insulin and its subsequent widespread use in the management of diabetes, very few diabetic women became pregnant. Most of these women were sterile due to the metabolic and pituitary dysfunction associated with uncontrolled diabetes. Dr. Walker, writing in England in 1928, found one case of diabetes and pregnancy in 10,000 patients in the Middlesex Maternity Hospital and no cases in the London Maternity Hospital among 24,567 obstetric patients. In our own country, J. W. Williams, writing in 1910, collected out of the world literature only 65 cases in which diabetic women carried a pregnancy to term. When it did occur in the uncontrolled diabetic, pregnancy frequently was fatal to the mother. A mortality of 25 to 50 per cent was reported. Of the infants born to these mothers, between 60 and 70 per cent did not survive. This situation is the same today, in the uncontrolled diabetic. However, since the widespread use of insulin in the management of diabetes, we find the combination of pregnancy and diabetes occurring much more often. Insulin will control diabetes and regulate pituitary function. It is the regulation of pituitary function, with a return to a more normal metabolism, that results in normal menstrual function and normal fertility.

At Johns Hopkins the incidence of diabetes and pregnancy is 1:282; at Michael Reece Hospital, 1:350, and at the University Hospital in Iowa City, 1:276. Between January 1946 and April 1952, I have been able to follow and deliver 19 pregnancies in 15 diabetic women. While this series is small, the management and outcome of this particular group of patients illustrates what can be done for the pregnant diabetic patient.

The effect which diabetes exerts on pregnancy depends to a great extent upon how well the diabetes is controlled. This in turn depends upon careful management. Control of diabetes alone, however, is not the whole answer to the successful outcome. From the standpoint of the obstetrician the three most important factors in the management of this patient are: (1) careful prenatal care directed toward the prevention of maternal complications, especially toxemia; (2) the decision *when* to deliver the patient, (3) the decision *how* to deliver the patient.

Successful management of the diabetic patient depends upon close cooperation between the internist responsible for the control of the diabetes and the obstetrician concerned with the obstetric

management. If the diabetes is carefully regulated, many of the serious consequences to mother and infant are eliminated. However, even under the best care, many of the harmful influences of diabetes make their appearance. The risk to the infant and a large number of complications in the mother are thereby increased.

EFFECT OF DIABETES ON PREGNANCY

The incidence of spontaneous abortion and premature delivery is greatly increased. It is estimated that about 20 to 30 per cent of these pregnancies end in spontaneous abortion.

The toxemia of pregnancy is greatly increased in the diabetic woman. This toxemia refers to the coexistence of hypertension, edema and albuminuria. An unusually rapid or excessive weight gain, indicating water retention, usually accompanies these symptoms. Potter and Adair found the incidence of toxemia to be 50 per cent; Mengert and Laughlin observed 24 per cent in their University of Iowa cases, and White determined a percentage of 18 in her series. In our own group there was one mild toxemia among 19 pregnancies (an incidence of about 5 per cent). Dr. White and co-workers, Boston, believe that the high incidence of toxemia in diabetes is due to an endocrine imbalance. They have presented evidence that seems to relate the toxemia of late pregnancy to a quantitative imbalance between chorionic gonadotropin and estrogen, and progesterone. In cases of toxemia, the gonadotropin values were high and the other hormones were relatively low. This shift in hormonal balance seems to antedate the development of toxemia by some weeks. Dr. White treated her patients with hormonal imbalance with estrogen and progesterone, markedly reducing the incidence of toxemia. Dr. White found that the clinical course of pregnancy was uncomplicated in 20 patients whose values for serum gonadotropin were normal (none developed toxemia and none miscarried), while with 11 patients in whom untreated serum values were elevated, eight developed toxemia and the remaining three delivered prematurely. This work has given rise to the use of stilbestrol and progesterone in the management of diabetic pregnancies. At the present time, Dr. White's work is controversial and the hypothesis of the relationship of hormonal imbalance to toxemia of pregnancy is not accepted by all other individuals and groups interested in the problem of the pregnant diabetic patient.

Between January 1946 and April 1952 we treated 15 diabetic mothers through 19 pregnancies with stilbestrol. Inasmuch as we have no economical method of determining the hormonal levels in these patients, we have treated them all alike. These patients tolerated the therapy well and there were no untoward reactions. One mild toxemia occurred in this series of pregnancies (an incidence of about 5 per cent).

A third serious effect of diabetes is the high incidence of fetal death. This tends to occur during the last four weeks of pregnancy, possibly due to vascular changes in the placenta. The fact that most of these fetal deaths occur during the last month of pregnancy has led to the policy of delivering the diabetic woman at least three or four weeks prior to term. Babies delivered at this time are usually average in size and weight but show other signs of prematurity.

The incidence of excessive size of the fetus is much higher in diabetics than in normal pregnancies. It is estimated that from 15 to 25 per cent of babies born to diabetic mothers weigh ten or more pounds. The excessive amount of anterior pituitary hormone and the high blood sugar levels probably account for the excessive size of these babies. Most of our group of patients were delivered in the 35th, 36th and 37th week. The babies, average in size, weighed from six to 9.3 pounds. There were no stillbirths.

Other complications such as hydramnios, malformations of the fetus and certain neonatal disturbances are more common in diabetes.

When and how to deliver the diabetic woman is extremely important. It is now well known that a large number of the babies will be still-born if diabetic patients are allowed to go to term. Many will die shortly after birth from anoxia, the trauma of delivery and other complications. These babies reach average weight at about the 35th, 36th or 37th week of pregnancy. Delivery at this time offers the best chance to save the infant. The decision concerning the method of delivery is obstetrical; each case must be individualized, depending on the findings that are present at the time the pregnancy is to be terminated. If the cervix is effaced and partially dilated and other findings are normal, medical induction followed by rupture of the membranes is the procedure to be followed. However, if the cervix is thick and firm and undilated, induction is not likely to take effect and delivery by cesarean section may be preferable. In our series of cases, the section incidence is 36 per cent. However, in only two cases was the section done because of the diabetes. In the remaining five cesareans, the indication was obstetrical (repeat cesarean section, contracted pelvic outlet and cephalopelvic disproportion).

SUMMARY

The coexistence of pregnancy and diabetes is more commonly encountered today than in previous years. Many serious complications may occur. Our experience, to the present time, shows that the obstetric course of the diabetic patient and fetal salvage closely approximates the course of the nondiabetic patient. There are four important factors in the care of the pregnant diabetic patient:

1. Careful control of the diabetes.

2. Adequate prenatal supervision to exclude preventable complications.

3. Termination of pregnancy at the 35th, 36th or 37th week.

4. Termination of pregnancy by induced labor or by cesarean section, depending upon the individual case.

THERAPEUTIC TRENDS IN EYE, EAR, NOSE AND THROAT

CECIL C. JONES, M.D.

DES MOINES

THIS DISCUSSION offers a résumé of different concepts of the relative merit and mode of use of some of the newer drugs, especially antibiotics and cortisone. Two of the numerous investigators referred to are Irving H. Leopold, M.D., Philadelphia, and Perrin H. Long, M.D., Baltimore.

Antibiotics are those chemical substances produced by a microorganism which are capable of inhibiting the growth of other organisms. Over 500 such substances have been isolated. The few of practical interest at present include penicillin, aureomycin, terramycin, streptomycin, chloromycetin, polymixin, bacitracin and neomycin. Since chloromycetin has been synthesized, it is a chemotherapeutic agent.

The intelligent use of these antibiotics depends upon utilizing a number of established criteria. The following paragraphs present them in some detail.

The etiological organism or organisms causing each disease process should be known by bacteriological study, clinical knowledge or experience.

The comparative inhibitory effects of each antibiotic for the various organisms should be known so that the most effective will be chosen. Very often more than one choice is available and advantageous.

It is essential that an effective concentration of the drug reach the site of the lesion and come in contact with the organism in order to kill it rather than merely suppress it. Otherwise, the organism may habituate itself to the antibiotic. Some organisms or various strains of the same organism often rapidly acquire antibiotic resistance. This organism resistance is accomplished in either of two ways: the organism produces an enzyme designated penicillinase which permanently inactivates the antibiotic, or resistance is induced by mutation as the result of exposure to the antibiotic. Thus the rationale for early adequate therapy.

When certain sulfonamides are combined with an antibiotic, notably penicillin, a greater synergistic or additive bacteriostasis is produced on many gram-positive organisms. This is another means of reducing the incidence of so-called acquired resistance of bacteria.

Although the relative antibiotic sensitivity of most pathogenic organisms has been established,

it is necessary to realize that this sensitivity is subject to change. In localities where much penicillin has been administered, many former sensitive strains have become resistant. This has made it necessary to substitute the so-called broad spectrum antibiotics such as aureomycin, terramycin and chloromycetin.

Patients are frequently sensitized to these drugs by the administration of minimal doses through drops, ointments, lozenges, etc. This is another reason why the dose should be large and adequate enough to kill the organism in a short period of time. When an infection is severe enough to justify the use of an antibiotic, it is essential to realize that the concentration of these drugs in tissue cells, peri-inflammatory exudates and necrotic tissue is only 25 to 50 per cent of the known blood concentration. Certain barriers exist, such as the corneal epithelium, blood aqueous barrier and cerebral-spinal fluid barrier. Some agents transcend these barriers better than others. For instance, chloromycetin systemically administered enters the eye better than the other antibiotics because it is more soluble in lipoids. The most recent concept is that chloromycetin should be used for the treatment of typhoid only.

The effectiveness of antibiotics instilled into chronically infected middle ears and paranasal sinuses can be enhanced by a previous instillation of varidase, which liquefies pus and fibrin. Since its activity ceases in four hours, it should be removed prior to the instillation of the appropriate antibiotic. Many nonallergic chronic maxillary sinus and middle ear infections without bony necrosis will favorably respond to this form of therapy.

Antibiotics are expensive, therefore one should select the drug which is adequately effective, best tolerated, least toxic, least expensive and most practically administered.

Penicillin is the number one antibiotic for acute infections of the upper respiratory tract because of its selectivity for gram-positive organisms, the most common offenders. Sulfadiazine or one of the triple sulfonamides are the choice chemotherapeutic additives or substitutes. Oral penicillin is as efficacious as the intramuscular route and has fewer adverse side reactions. The oral dose is five times greater (200,000 to 400,000 units three times daily on a fasting stomach). Greater bacteriostasis is accomplished by combining with a sulfonamide. It is the most economical, effective mode of managing most acute infections of the ears, throat and sinuses. If a satisfactory response does not occur in 72 hours, a switch to one of the so-called broad spectrum antibiotics is indicated.

Aureomycin, terramycin or chloromycetin are chosen for both gram-positive and gram-negative organisms, mixed infections, when penicillin is ineffective or not well tolerated or when, according to record, one of them is particularly effica-

cious in a certain type of infection. The choice of the drug selected often depends upon the physician's individual experiences. Aureomycin is the least toxic and chloromycetin the most toxic of the three.

Some observers are recommending the administration of vitamin B complex in order to minimize the frequency of secondary oral lesions due to monilia. For systemic use, chloromycetin is the choice drug for intraocular infections because it is soluble in lipoids and thus attains a higher intraocular concentration. In the eye, polysporin, terramycin and aureomycin are employed by local instillation and are preferred because of the lessened tendency to produce a sensitivity or allergenic side effects.

Like the antibiotics, cortisone is employed locally in the eye more often than systemically. This hormone exerts its influence by interposing a block between the toxin and the mesenchymal fraction of the peripheral cells. It is not bacteriostatic. During the period of altered tissue response, time is gained to seek and eliminate the cause of the local tissue reaction and institute appropriate therapy. Cortone blocks permeability, inhibiting the absorption of any other drug instilled. It also limits the disseminating effect of hyaluronidase, alters histamine metabolism and inhibits fibroblastic activity. For the latter reason, it is contraindicated in tuberculous diseases. Duke Elder suggests the local use of cortisone as an adjunct in the management of acute and subacute non-granulomatous iridocyclitis, sympathetic ophthalmia, allergic conjunctivitis, infective superficial keratitis, early deep keratitis, luetic interstitial keratitis, episcleritis, Rosacea keratitis and phlyctenular kerato-conjunctivitis. It is preferable to antihistamines or IV procaine for allergic manifestations. The systemic route is indicated for acute and subacute generalized uveitis, early focal choroiditis and systemic allergic reactions. The more acute the pathological process, the more efficacious the hormonal response. Some persons develop a sensitivity to hormone instillations. A subconjunctival injection of .4 to .6 cc. undiluted cortone favorably influences acute infections of the posterior segment of the eye. Systemically, ACTH is somewhat more effective than cortone, although it is also associated with more complications. Due to its water-binding effect it is possible to precipitate a glaucoma secondary to a uveitis or iritis. Systemic use is contraindicated in those with a suggestive psychotic background, active or arrested tuberculosis or diabetes and peptic ulcer.

TELEVISION SCHEDULE

WOI-TV at 8:30 p.m.

November 5 Home Care of Polio Patients
November 19 Peptic Ulcer

State University of Iowa
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

May 28, 1952

SUMMARY OF CLINICAL RECORD

THIS FOUR MONTH OLD infant girl was admitted to the University Hospitals with an abdomen which had been enlarging slowly since birth. The child was born after a full term normal pregnancy, the mother's second. The first had aborted at three months. The child weighed 7 pounds and 4 ounces at birth; the neonatal period was normal. The parents had noted nothing abnormal about the baby except a slightly enlarged abdomen. The local physician had noted nothing unusual about the baby.

Bottle fed from birth with an evaporated milk formula, the child took her formula well and had a good appetite. At three months she weighed 12½ pounds, was active and appeared to be in good health. However, friends noticed at this time that she looked a bit pale. The abdomen continued to appear slightly larger than normal to her parents.

A week prior to admission the voice began to get hoarse, the eyes became "red and baggy" and the abdomen began to enlarge gradually. Appetite remained good. Enemas to relieve the distension were without effect. Shortness of breath and wheezing at night began. There was no marked fever. Stools were normal yellow and moderate in consistency. There had never been any upper respiratory infections, discharging ears, cough or fever.

The girl was born in Bellevue, Iowa, but at six weeks her parents moved the family to California. They returned one week prior to admission. The referring physician reported hemoglobin 32 per cent; red blood cells 1.08 million per cu. mm., and white blood cells 3,750 per cu. mm.

Physical examination showed a weight of 13 pounds 3 ounces; height, 24¾ inches, and head circumference of 15 inches (38 cm.). The abdomen was greatly distended and she appeared to be in discomfort and dyspnea due to the abdominal pressure. The color of the skin was pale. The eyes and ears appeared normal. The anterior fontanelle was normal in size and tension. The pharynx and oral cavity were normal. The neck revealed no palpable glands. The lungs were clear and normal. Air exchange was ample and there were no rales. The heart rate was 180 per minute and regular in rhythm. It did not appear enlarged to percussion. There was a soft systolic murmur over the whole precordium. The abdomen was greatly distended and the liver was palpable to three inches below the right costal margin. The spleen was also palpable to about three inches below the

left costal margin. The rest of the physical examination was not remarkable.

The body temperature was 102° F. on admission. A low grade fever, ranging from 99° F. to 102° F. per rectum the first week, was present. Thereafter, temperatures registered from 99° F. to 101° F. per rectum until the twenty-second day, when it rose to 104° F. for the day. Fortified crysticillin, 200,000 units intramuscularly once daily, was begun on the fourth day. This was continued until

BLOOD AND BONE MARROW TEST RESULTS

| | |
|--|---|
| Hemoglobin | 4.3 grams per 100 ml. |
| R.B.C. | 1.8 million per cu. mm. |
| W.B.C. | 3,800 per cu. mm. |
| Platelets | 14,000 per cu. mm. |
| Bleeding Time | 2 minutes 30 seconds |
| Coagulation Time | 4 minutes |
| Prothrombin Time | 52 seconds |
| Control | 35 seconds |
| Fragility Test | 0.44% to 0.34% saline |
| Hematocrit | 22% |
| Blood Smear | Hypochromic R.B.C. with moderate number of polychromatophilic cells. Occ. nucleated R.B.C. Marked anisocytosis and poikilomytosis. No platelets seen. W.B.C. were predominantly small lymphocytes. Polys were hypersegmented. |
| Bone Marrow | Erythroid hyperplasia |
| Nonprotein Nitrogen | 30 mg. per 100 ml. |
| Creatinine | 0.69 mg. per 100 ml. |
| Van Den Bergh | 2.1 mg. per 100 ml. in 1 min. 3.3 mg. per 100 ml. in 30 min. |
| Icterus Index | 10.7 units |
| Total Proteins | 2.3 Gm. per 100 ml. |
| Fibrinogen | 0.4 Gm. per 100 ml. |
| Albumin | 1.6 Gm. per 100 ml. |
| Globulin | 0.4 Gm. per 100 ml. |
| Wasserman and Kline | Negative |
| Skin Test with Purified Protein Derivative No. 2 | Negative |
| Coombs' Test | Negative |
| Child's Blood Type | A Rh positive |
| Mother's Blood Type | O Rh positive |
| Urinalysis | pH 7.0 negative for albumin and sugar. Microscopic examination normal. |

the twenty-fifth day. Stools examined for tryptic activities on the sixth, seventh and eighth day were interpreted as 1 plus to negative, except for one specimen, which ranged from 4 plus to 1 plus. The stools were positive for urobilinogen, except one negative specimen on the twelfth day. On the ninth day, white blood cells were 2,120 per cu. mm., the fragility test showed hemolysis from 0.44 to 0.34 per cent saline and platelets read 23,000 per cu. mm. Fragility tests on both parents were taken and found to be 0.44 to 0.34 per cent in each.

X-rays of the chest, skull and bones were not

abnormal, except for elevated leaves of the diaphragm due to the enlarged liver and spleen. Bone marrow aspiration was repeated on the ninth day of hospitalization. Blood cultures were taken on the tenth and fifteenth days. A total of 1,700 cc. of whole blood was given in four transfusions, and on the nineteenth day the hemoglobin was 9.9 Gm., the red blood cell count was 3.2 million and the white blood cell count was 3,400. On the fifteenth day prothrombin time was 45 seconds, the control 16 seconds. Hykinone 2.5 mg. was given intramuscularly every two days from the sixteenth day onward.

The child became progressively worse after admission in spite of the transfusions. Jaundice increased, breath became shorter and weight loss increased. On the twelfth day, atabrine 50 mg. was given every six hours. It was discontinued after the fifth dose because of severe vomiting. The child had been receiving an acidified half-skimmed milk formula with added dextrimaltose and vitamins, taking three to four ounces every three hours and vomiting only an occasional feeding. After the vomiting episode with atabrine, the child continued to vomit most of her feedings. All oral feedings were discontinued on the sixteenth day and parenteral fluids were begun. Oral feedings were resumed on the nineteenth day. On the twenty-first day atabrine 25 mg. every eight hours was started. On the twenty-fourth day difficulty in breathing, accompanied by inspiratory stridor, was noted. Rhonchi were heard throughout both sides of the chest. The child's condition rapidly deteriorated thereafter. She expired on the twenty-fifth day after admission.

SUMMARY OF NECROPSY FINDINGS

At autopsy, there was disseminated infection of granulomatous type due to *Histoplasma capsulatum*. Reticuloendothelial tissues throughout the body showed proliferation. Extensive parasitization was noted in lungs, spleen, liver, bone marrow, lymph nodes and adrenals. Kidney tissue was also involved. The parasite was cultured before death from bone marrow and after death from heart blood and spinal fluid.

The tissue reaction to the organisms varied from no detectable response to granulomatous areas with tubercle formation, to fibrosis.

The chief gross findings were splenomegaly, a lesser degree of hepatomegaly and enlargement of mesenteric and hilar lymph nodes.

NECROPSY DIAGNOSIS

Disseminated histoplasmosis.

CLINICAL DISCUSSION

Dr. John C. MacQueen, Pediatrics: The first part of the protocol describes an infant whose physical growth and development were within normal limits. In spite of this, sufficient clinical signs

were present to suggest subclinical illness. The exact date of the onset of the enlarged abdomen is not known. In one place the history records that it had been noted at birth. Another place in the history suggests that the severe disproportion between the abdomen and the rest of the body was noted one week prior to admission.

The protocol next records that the child's presumed tolerance to the subclinical illness was overwhelmed and acute symptoms appeared. At this time the patient was admitted to the hospital. The physical findings are listed in the protocol.

The rather extensive listing of the laboratory findings may be somewhat confusing. It should be noted that there was leukopenia with a relative lymphocytosis. The depression of the platelet count may be more confusing than helpful in making the diagnosis.

The latter part of the protocol suggests that during hospitalization the signs of illness became acute and progressive. Because the physical examination and laboratory findings did not point to any single diagnosis, many and unrelated examinations were done.

Therapy during the greater part of hospitalization was that of supportive care. In spite of this, jaundice, weight loss, vomiting and respiratory distress continued. The signs of respiratory distress became acute and the infant died on the twenty-fifth day of hospitalization.

We are interested in knowing the students' tentative diagnosis and how they arrived at that diagnosis.

Junior Student: There was considerable diversity of opinion among the junior class as to the diagnosis. Seventeen voted for histoplasmosis, 17 voted for malaria and seven voted for Gaucher's disease. There were lesser votes for numerous diseases. Among these were Letterer-Siwe's disease, splenic panhematopenia, aplastic anemia, Cooley's anemia, toxoplasmosis, aleukemic lymphatic leukemia, syphilis and Fanconi's syndrome.

Dr. MacQueen: The patient was sent to this hospital with a tentative diagnosis of an aleukemic leukemia. I think this represented an acceptable tentative diagnosis. The resident on duty at the time of admission recorded the possibility of Letterer-Siwe's disease. The next morning when the baby was seen by the ward resident, the possibility of a hemolytic anemia was recorded. These three diagnoses made by observers of the acute illness should be remembered, as they represent disease states that are commonly confused with the disease present.

The child was admitted on August 8. On August 17 a third bone marrow test was done. The smear furnished identity of *Histoplasma capsulatum*, which established our diagnosis.

The child died of respiratory difficulties. In spite of the severity of her clinical signs of respiration, there were minimal physical findings. The latter was in agreement with the minimal changes

observed in the roentgenogram taken just prior to death.

Now we come to the confusing reference to the use of atabrine. In 1946, I worked in conjunction with a survey made by the United States Public Health Service as the representative in a children's hospital. I had as a patient a three month old infant with generalized disseminated histoplasmosis. The report of this case is in the Public Health Report of March 8, 1948.

During the course of the patient's disease, it seemed possible that the diagnosis was malaria. This suggested the use of atabrine. A remarkably favorable response occurred. Atabrine was discontinued and given again two weeks later. Again the child became afebrile, and the course of the disease was favorable thereafter. Since that time other workers have used atabrine. I am not presenting this information to suggest atabrine as the unquestioned treatment for histoplasmosis; that would be in error. On the other hand, because of my experience and that of others, I would be in error not to share with you the possibility that atabrine may be helpful in this most difficult-to-treat disease.

Recently considerable literature has been printed concerning the use of ethyl vanilate as the drug of choice in the treatment of this disease. The fungicide, ethyl vanilate, is not a mild drug to give. It frequently results in severe gastrointestinal symptoms. Vomiting and enteritis occur. It is accepted that it must be given for long periods of time—30 to 45 days—before appreciable response can be expected. This raises the question as to just how severe the course of the disease would have been without the administration of the drug. I realize the information about the use of atabrine severely complicates interpretation of the clinical findings.

Dr. Eugene F. Van Epps, Radiology: The chest film obtained on August 13, 1951 demonstrates nicely the size of the patient's liver and spleen. This large spleen produced an elevation of the leaves of the diaphragm and a transverse position to the cardiac silhouette. There is no evidence of parenchymal infiltration in either lung field. There is evidence of peripheral emphysema, due in some degree to the elevated diaphragm and to the respiratory infection of this individual. We can see cases in which peripheral emphysema is a manifestation of acute respiratory infection when there is no parenchymal infiltration present within the lung fields. In infants and children, that indicates the presence of a respiratory infection.

A lateral view of the chest was obtained at the same time. It showed an adequate trachea and the large protuberance of the abdomen.

Examination 13 days later showed essentially the same findings. There was no appreciable change in the appearance of the lung fields nor in the size of the liver or spleen.

The second lateral view also clearly demonstrated the large abdomen. There was no evidence of parenchymal infiltration within the lung field.

The portable film of the chest obtained one day prior to death showed the lung itself to be absolutely free of infiltration.

We had no specific diagnosis except enlarged liver and spleen. You all know that there are many causes for that. We thought particularly of the xanthomatoses. Long bone studies were done which showed no evidence of infiltration within the marrow of these bones.

Dr. Jack M. Layton, Pathology: Autopsy revealed disseminated infection of granulomatous type due to *Histoplasma capsulatum*. The enlarged liver and spleen of this emaciated child were observed. The lymph nodes were prominent, somewhat soft, but not recognized as particularly enlarged in the gross. In the lower lobe of the left lung near the periphery there was a lesion about 1 cm. in diameter which was more firm than the surrounding tissue. It was not calcified or caseous, but somewhat fibrotic. Microscopic examination showed reticuloendothelial tissue throughout the body to be extensively parasitized by *Histoplasma* organisms. The large mononuclear cells were enlarged in the acute lesions and their cytoplasm filled with small, spherical, somewhat basophilic bodies surrounded by a halo with an overall diameter of 3 to 5 microns. In some areas these large mononuclear cells formed granulomatous lesions, with or without central necrosis; in other areas these cells were scattered rather diffusely. There were instances of fibroblastic proliferation at the periphery.

With histoplasmosis, reticuloendothelial tissue in any part of the body may be involved. In this particular case the most extensive parasitization was noted in the lungs, spleen, liver, bone marrow, lymph nodes and adrenals. The parasite was cultured before death from bone marrow and after death from heart blood and spinal fluid, although we did not find any morphological abnormalities in the tissues of the central nervous system.

Lesions of histoplasmosis which simulate the primary infection type of tuberculosis have been described. Some people regard the spreading pattern of this disease as somewhat analogous to primary and reinfection types of tuberculosis. It is possible that the granulomatous lesion in the lower lobe of the left lung may have represented a primary type lesion which was associated with later generalized dissemination of the disease. On the other hand, this particular case did not show the enlarged, caseous, infected lymph nodes in the hilar region of the lungs which is commonly associated with that type of lesion in tuberculosis and also described in some cases of histoplasmosis.

This particular disease has special interest for this medical school. It was originally described by

Darling in 1906, while he was in Panama searching for Leishman-Donovan bodies. During this time he happened to observe three cases. He proposed the name *Histoplasma capsulatum* for the parasite. The organism was first cultured from a

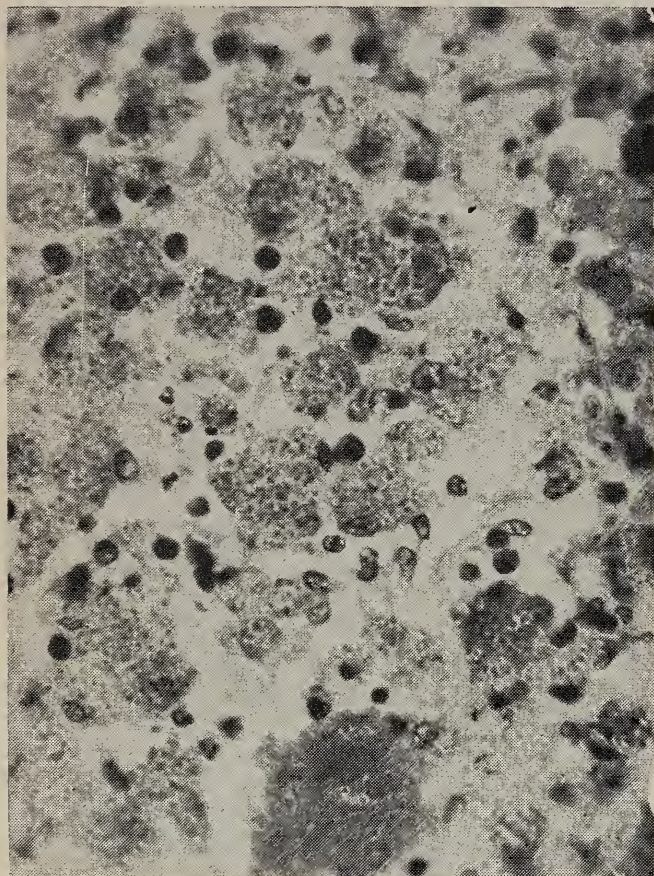


Figure 1. Lymph node containing phagocytic mononuclear cells enclosing many *Histoplasma capsulatum*. Oil immersion. Periodic acid-Schiff stain.

case in this hospital. In 1933, a 42 year old steel welder, afflicted with a chronic disseminated dermatitis for 15 years, died. A biopsy taken a few weeks prior to death revealed these small yeast-like organisms. Upon recommendation, cultures were obtained from skin lesions and lymph nodes about three weeks before the man died. The organisms were grown out in culture. Consultation with some of the leading pathologists and tropical medicine experts of the day revealed that this was a rather unique infection. It was later reported by Hansmann and Schenken under the title, "A Unique Infection in Man Caused by a New Yeast-like Organism, a Pathogenic Member of the Genus *Sepedonium*."

The organism in the case under discussion is also a little different from many of the usual strains of *Histoplasma capsulatum*. Its virulence is decidedly greater than the strains which have been reported. The Department of Bacteriology and the State Hygienic Laboratory have both engaged in original studies on this strain of the organism. I believe that Dr. McKee has some things to tell you about the particular organism in this case.

Dr. Albert P. McKee, Bacteriology: We received our first bone marrow and blood for examination on Aug. 18, 1951. The Giemsa smear was positive for *Histoplasma* and the culture of bone marrow grew out in about two weeks. The first subculture grew out in five days. We recognized it as *Histoplasma* at that time. In our relatively brief experience with the organism, at least as isolated from human cases, this was rapid, both for the organism to grow out that fast and for us to be able to identify the tuberculated chlamydospores. The blood culture received then was also positive. However, as mentioned by an earlier participant in the program, it took some five weeks for the organism to make an obvious growth in the blood culture.

The additional blood and bone marrow received was positive. As autopsy specimens, we received spinal fluid, lung, liver, spleen and more blood. These all had the organism in them. Since the organism seemed somewhat unusual, we thought we should study it experimentally. Some mice

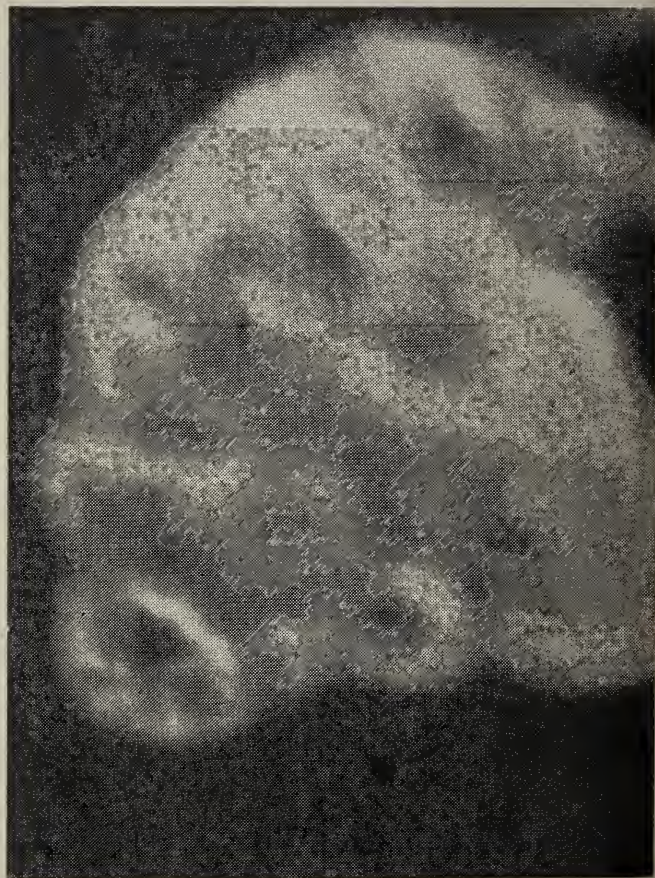


Figure 2

were inoculated intranasally. We expected the usual five to seven months' wait before the mice developed signs. This organism caused the death of the mice; in fact, on the third passage they died in six days. The gross pathology at this time was not too marked. There were some areas of pneumonic consolidation. Aside from that, however, there was certainly not the picture of chronic histoplasmosis that one sees in experi-

mental animals with enlarged liver and spleen, etc. After the organism had been in culture for some time, some of the mice lived the usual five to seven months before they showed signs of infection. One rather interesting feature was the tremendous increase in splenic volume comparable to what one sees in the human. The increase by volume and by weight was approximately sixteen-fold. The mouse's spleen looked considerably larger than a normal guinea pig spleen, which was unusual as far as we were concerned. These studies are being continued along lines of virulence and hypersensitivity.

I think an interesting comment on histoplasma infections is the relatively high incidence of the disease that is not diagnosed other than by showing a positive skin test. In retrospect, it is assumed that the patient has had the disease. Since it has been shown that the hypersensitive state

infection, a relatively silent one, with symptoms perhaps not unlike those of influenza. Most of these laboratory infections pass off fairly soon. These individuals, under controlled studies, were known to have a negative histoplasmin skin test at the start, and after this bout, it turned positive

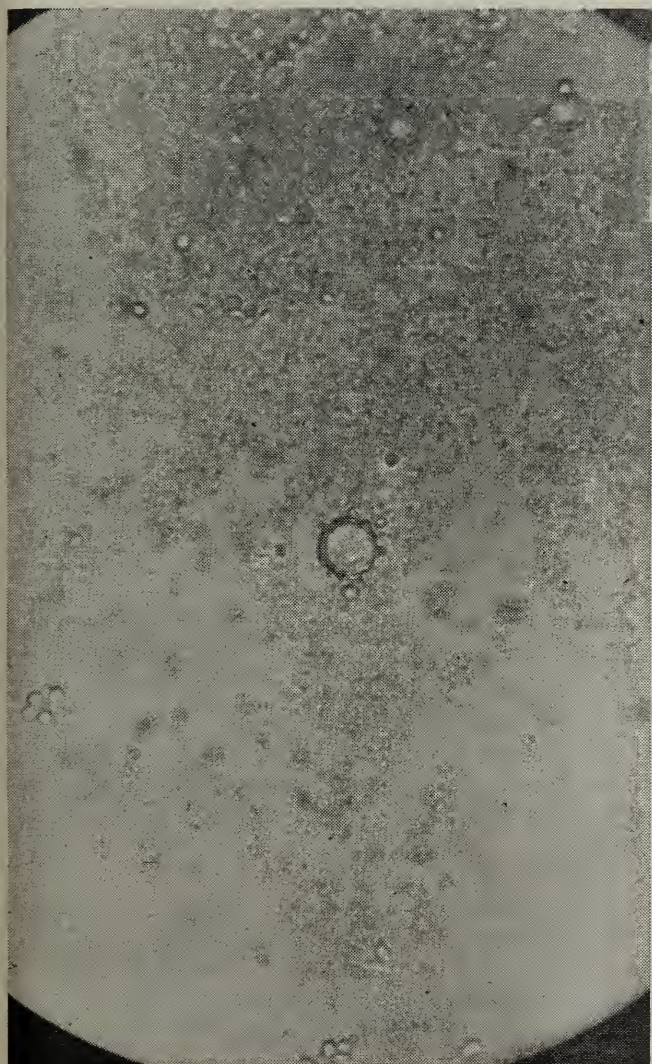


Figure 3

crosses with other pathogenic fungi, a certain amount of caution is advised with regard to the interpretation of the test. It is also interesting to note that a number of people working with *Histoplasma* in the laboratory have acquired an



Figure 4

and no fatal disease developed. This suggests that the widespread occurrence of positive skin tests means more than we might otherwise conclude.

The organism has been isolated in nature where it occurs as a spontaneous infection in dogs, rats and mice. It has also been isolated from the soil, from silage on a farm where a fatal infection did occur and from the soil outside the house of this particular case, according to Drs. Furculow and Grayston, who made an epidemiologic study on this particular case.¹

Just to refresh your minds a bit in regard to this organism, how it appears in culture and in the exudate, we have some slides to show.

The first slide (fig. 2) shows a typical *Histoplasma capsulatum* growth of a 2 per cent dextrose agar plate. It is in the mold phase here, with many hyphae, representing growth after a period of perhaps two or three weeks.

Figure 3 shows the characteristic morphologic features that one finds in this colony, namely, the tuberculated chlamydospores. These are large structures, 14 or 15 micra in diameter, with many little warty projections on them. These are supposed to be quite characteristic of *Histoplasma capsulatum*.

Figure 4 shows the organism in the yeast phase. It is accomplished by culturing the organism in a tube of blood agar at 37° C., with the air exchange restricted by a stopper in the mouth of the tube.

¹ Personal communication.

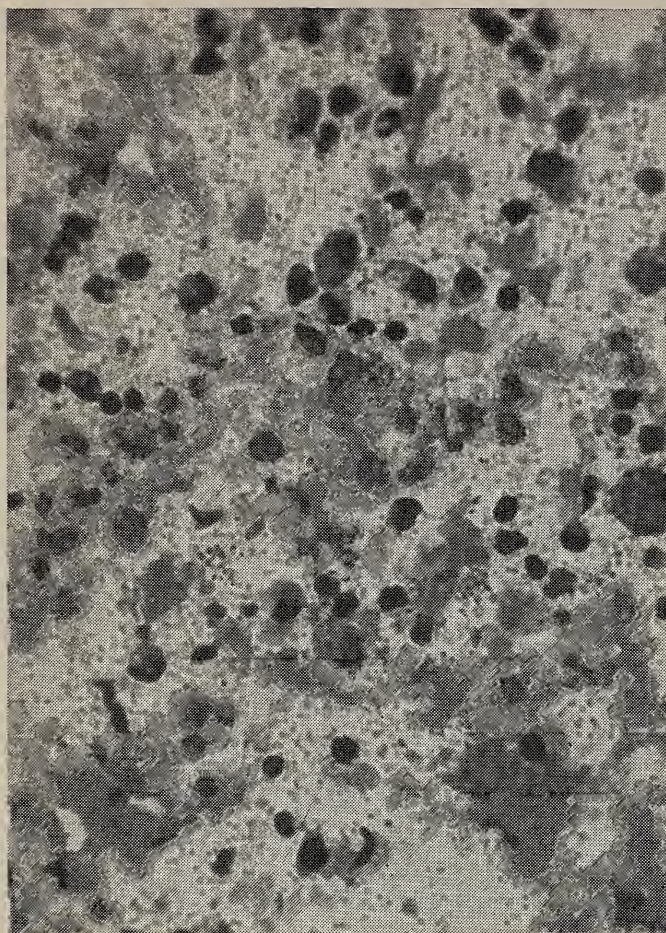


Figure 5

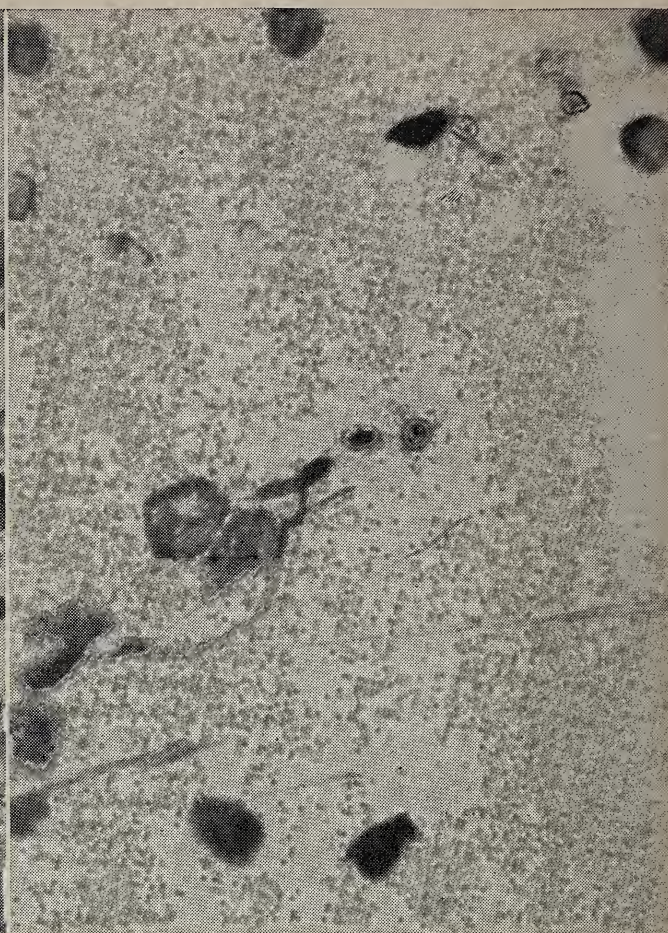


Figure 6

We find many of our cultures approach this, but they still have some hyphae in them. Incidentally, this yeast phase is used quite often as a complement-fixing antigen, as is histoplasmin.

Figure 5 illustrates a Giemsa preparation from the mice that have been infected with the organism isolated from the patient we are discussing. This shows the spleen, although the liver and lungs and other organs had a concentration close to this. You see many of the organisms concentrated in the cells, much as Dr. Layton pointed out to you on his sections. This shows that the organisms do not stain evenly; the stain tends to concentrate in one area. The yeast has a size range of from 1 to 5 micra. One has to look carefully at a number of cells before finding a budding cell, which helps greatly in reaching the diagnosis.

Figure 6 shows our version of the periodic Schiff stain. This is a Micchiavello's stain that one usually uses to stain rickettsiae. It is a basic fuchsin type of stain that makes the organism stand out in a clear cut fashion. When there are only a few of them scattered around over the slide they can be picked up readily by this technic, whereas they might be overlooked in the conventional Giemsa, if the incidence was relatively low.

Dr. MacQueen: Today we have considered a case that represents the acute, fulminating, generalized type of the disease, histoplasmosis. Of

probably more clinical importance is the sub-clinical form which results in the perplexing radiological findings of pulmonary calcification. Dr. Van Epps will discuss the x-rays.

Dr. Van Epps: Not all cases of histoplasmosis present no findings in the lungs. Here is a child that came into the Pediatrics Department just the other day with diffuse, scattered calcifications throughout both lung fields. In addition, there are large hilar lymph nodes in which one finds calcium deposits on both sides. This child has had apparent respiratory infection and some depression of the diaphragm. He has increased aeration of the lung fields, a condition that many of us commonly call emphysema. It may be the result of repeated respiratory infection. Of some interest is the fact that this child had examinations nearly two years ago, at which time the finding of diffuse, scattered calcifications was exactly the same. These are healed granulomatous lesions.

People have asked, "How can you be so sure that is a healed granulomatous lesion?" (It is granulomatous in the sense that it is not a tuberculous process.) We all realize that tuberculosis is a granulomatous lesion. When we report these cases we usually say that we believe it to be either a tuberculous or a histoplasmic process. Those are the two most common conditions in which we find scattered, diffuse calcifications. Certainly we are not able to state with a great deal of assur-

(Continued on page 552)

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines
MISS MARY L. McCORD, Managing Editor.....Des Moines
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines
MR. DON L. TAYLOR, Advertising Manager.....Des Moines
MISS JOYCE MEYER, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City
ALLAN G. FELTER, M.D.....Van Meter
DANIEL A. GLOMSET, M.D.....Des Moines
TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton
WENDELL L. DOWNING, M.D., Trustee.....Le Mars
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

*Address all communications to the Editor of the Journal,
529-36th Street, Des Moines 12*

Vol. XLII

NOVEMBER, 1952

No. 11

EXECUTIVE COUNCIL INITIATES ACTION AGAINST INCLUSION OF MEDICAL SERVICES IN HOSPITAL SERVICE CONTRACTS

Last spring the House of Delegates of the State Society received a resolution protesting the inclusion of radiology, pathology and anesthesiology in hospital service contracts. The resolution was referred to the Committee on Hospital and Professional Relations which met in September to consider the problem.

After an all day meeting at which representatives of the three specialties outlined their problems, a resolution was prepared for submission to the Executive Council.

The Executive Council, in session September 25, studied the matter again and approved of a resolution, the full context of which may be found in the minutes of that meeting appearing in this issue of the JOURNAL.

Inclusion of medical services in the hospital service contracts has caused much confusion in the minds of the subscriber. Many inconsistencies exist in the policies. One Blue Cross policy provides medical services of these three specialties if the subscriber does not have Blue Shield and the Comprehensive 70 will pay for the medical services if given by an employee of the hospital, but if given by a doctor of medicine, Blue Cross will not pay. Under the latter policy, many subscribers become very irate since they have been sold the policy under the impression it provides unlimited coverage.

The demand for separation of medical from hospital services has existed for a long time. The

need for the separation is long overdue. The resolution adopted by the Executive Council calls for a conference between Blue Cross, Blue Shield, the Iowa Hospital Association and the Iowa State Medical Society to erase existing inconsistencies and to remove medical services from the hospital service contracts. A preliminary conference has been called and it is hoped that progress may be made during the fall months.

DON'T OBLIGATE YOURSELF FOR INCORRECT PRESCRIPTIONS FOR VETERANS

Members of the Iowa Pharmaceutical Association have been experiencing some difficulty in regard to prescriptions for veterans being treated under the Home Town Medical Care Program. Some time ago the cooperation of the medical profession was asked to iron out difficulties about incorrectly written prescriptions. Now it appears that some physicians are writing prescriptions for medical requisites such as gauze, bandages, adhesive tape and, in some instances, trusses.

These are not among the 14 items of medical requisites which may be prescribed. When the physician prescribes them, and the prescription is correctly written and filled in good faith by the pharmacist, the Veterans Administration is currently paying the pharmacist and billing the physician.

This is not a fair solution to the problem. It is true the pharmacist should be reimbursed for the merchandise, but the physician will react negatively to paying for the items himself.

The items for which the Veterans Administration will pay are as follows: insulin syringe and two needles, two hypodermic (insulin type) needles, atomizer, nebulizer, hot water bottle, fountain syringe, combination hot water bottle and syringe, ice bag, ice cap, urinal, bed pan, enema can, feeding tube and ear and ulcer syringe.

The Veterans Administration did not contemplate paying veterans directly for routine and recurring surgical dressing needs. Such items should normally be furnished to eligible beneficiaries through the Regional Office Pharmacy. In case of emergency or the need for prompt procurement of dressing when VA facilities are not available, the procedure recommended is that the veteran purchase them and submit a voucher with supporting documents for consideration as an unauthorized claim.

All physicians participating in the Home Town Medical Care Program are asked to note this new development and be guided accordingly in rendering care to veterans.

TOXIC EFFECTS OF CERTAIN DETERGENTS

Much of the credit for decreasing the use of strong alkali and other dangerous corrosive agents in the home goes to the recently discharged AMA committee on lye legislation. Its chairman, Dr.

Chevalier Jackson, read the committee's final report to the AMA section on laryngology, otology and rhinology at the June 1952 meeting. Since the passage of the Federal Caustic Poison Law 25 years ago, there has been intense effort on the part of the chemical industry to develop effective substitutes for these corrosive agents. One of the significant results of this research has been the use of detergents. Some of the detergents are far more effective germicides than the previously used phenol, cresol and heavy metal compounds. In addition, they are quickly effective in dilute solution, are nonirritating to the skin as well as non-corrosive to metals and rubber goods. It is also believed that they are relatively harmless compounds and do not constitute a danger in the home or in eating establishments.

The new detergents are powerful cleaning and wetting agents. They have found wide use in medicine and industry. Largely colloidal electrolytes, some of the detergents are dissociable and some are nondissociable. The latter are termed non-ionic. Those that are dissociable are named according to the sign of the charge on the hydrophobic group which confers the activity: anionic or cationic. The cationic detergents are often quaternary ammonium salts.

The manufacturers have been careful to label these detergents with a warning against ingestion, and there have been, until now, no reports of death as the result of their accidental ingestion. A recently reported case¹ indicates that some of these detergents are quite poisonous. Because of their wide use and the fact that they have been considered nontoxic, the report of Adelson and Sunshine deserves wider distribution.

These authors report death in about 25 minutes following accidental ingestion of less than an ounce of an alcoholic solution of a widely used detergent.

The biologic effect of the cationic detergents apparently is one of inhibition of cholinesterase and certain intracellular oxidative enzymes. The cationic detergents, as a class, are known to be powerful denaturants of protein. They apparently produce death by destroying cholinesterase, thus permitting accumulation of acetylcholine. The result is pathologic hyperstimulation of the parasympathetic nervous system, along with stimulation of the central nervous system and the peripheral motor nerves. This aspect of the reported case suggests to the authors the immediate institution of atropine therapy in doses of 2 mg. per hour in individuals poisoned by the cationic detergents. Gastric lavage and other supportive measures should not be neglected.

In view of the wide distribution of synthetic detergents in the home and public eating establishments as well as in industry and hospitals, it is

well to call attention to the fact that these substances may be lethal in relatively small amounts. It would seem that they should receive the same attention, in so far as keeping them out of the reach of children, as was necessary for the caustic agents which they replaced.

HIGHLIGHTS OF THE AMA PUBLIC RELATIONS INSTITUTE

The first Public Relations Institute sponsored by the AMA Public Relations Department was held at the Edgewater Beach Hotel, Chicago, September 4 and 5. The Institute attracted over 200 representatives from 41 state medical societies and a number of county societies. The various medical societies were represented by physicians who are active in medical public relations as well as many lay persons who are employed to handle medical public relations for the profession. The Iowa delegation included: Dr. B. T. Whitaker, Dr. Donald C. Conzett, Dr. Fred Sternagel, Dr. R. D. Bernard, Dr. Donovan Ward, Dr. Joe Fellows, Don Taylor and Ed Kingery, executive secretary, Polk County Medical Society. This Public Relations Institute was held as a preliminary to the annual public relations conference which is conducted in conjunction with interim sessions of the AMA. This year the conference will be held in Denver in advance of the official opening of the AMA interim session.

Dr. George F. Lull, general manager of the AMA, delivered the opening remarks. He expressed pleasure in seeing such a large turnout and commended the doctors for giving up time from their practice to attend the session. It is Dr. Lull's opinion that public relations is one of the most important functions of a physician and his medical society. He said that each state and county medical society should strive to develop interest among its members in the organization of medicine. The main plea in his introductory remark was that all medical societies should make an effort to inform the doctors of the importance in opening and reading their mail, particularly when it comes from the national, state or county society. In closing, the general manager said, "If your public relations committee accomplishes no more than this, it will have done a monumental job of public relations with the profession."

The two day program was divided into five panel discussions listed as follows: "Practical Ways to Increase Physician Participation in Society Activities;" "Should the Code of Ethics be Modernized to Bring About Better Relations Between Mass Media and the Medical Profession?;" "How to Develop the Best Working Relationship Between the Medical Profession;" "How to Develop the Best Working Relationship Between the Medical Profession and Press-Radio-Television;" "Tips to the Medical Profession on Working With Community Groups," and "Strengthening Medical Society Public Service Activities."

1. Adelson, L.; and Sunshine, I.: Fatal poisoning due to a cationic detergent of the quaternary ammonium compound type. *J. Clin. Path.*, 22:656-661 (July) 1952.

Many of the discussions had reference to programs which we now have in effect. These are not included in this report.

One discussion of interest to our delegates was delivered by Mr. Theodore Wiprud, executive secretary, District of Columbia Medical Society, who presented a program on indoctrinating new members. He outlined a three point procedure: (1) the society provides a packet of descriptive material to each physician in attendance, (2) the society sponsors a membership luncheon for new society members and (3) it provides personal information and assistance service to new members. The new members are furnished with copies of the constitution and by-laws, principles of medical ethics of the AMA and any other material which might assist them in getting established in the community and medical society. Each new member is invited to attend a luncheon to become acquainted with other new members as well as the officers of the society and the office staff. Following this, an officer gives a brief history of the society and explains its activities, projects, benefits and finances. At this session the officers stress their willingness to be helpful and point out the assistance which is available to a member through the executive office or executive secretary.

PERSONAL INFORMATION AND ASSISTANCE SERVICE

The activities of the executive secretary in assisting new members to establish themselves in practice and in the society affords him an excellent opportunity to indoctrinate new members. Mr. Wiprud outlined some of the things that he has done for new members in the way of personal assistance: locating office space, a home, office personnel, etc. The District of Columbia Medical Society is now experimenting with a new project which it calls "The Question Hour." It is a quiz type program conducted for residents and interns. They are invited to submit questions on medical matters which are of interest to them to a panel of physicians in advance of a scheduled meeting. The society hopes to be able to maintain a time limit of one hour for this quiz period. Mr. Wiprud said that he believes no physician will be active in his medical society unless he is kept informed on what it is attempting to do. He stated further that, "As a result of early indoctrination of new members, we have been able to keep our members interested, better informed and active in the society. We believe this activity has assisted in maintaining almost 100 per cent membership of eligible physicians in the District of Columbia." He highly recommends this project to any county or state medical society.

"Building Local Meeting Attendance" was discussed by Mr. Rollen Waterson, Oakland, Calif., executive secretary, Alameda-Contra Costa County Medical Society. Mr. Waterson believes that good attendance at meetings is the result of good showmanship on the part of the organizers. "You

put on good or bad shows and either will reflect directly on the attendance," Waterson said. He offered three fundamentals: a good show, well presented and well advertised. The *don'ts* were three: don't divide the society by holding specialist meetings, don't forget to reserve proper accommodations for the meeting and don't tell your members they should attend. Let them decide to attend when they peruse the attractive program you offer.

A panel designed to discuss medicine and publicity considered the advisability of revising the medical code of ethics in order to bring about better relations between mass media and the medical profession. It was the consensus of these panel participants that the code of ethics should be modernized in order to make it easier for physicians and the press services to work more closely together. They had particular reference to Section 5 of Chapter 1, entitled, "Educational Information, Not Advertising," of the AMA principles of medical ethics. The speakers were unanimously in favor of local meetings where the doctors, newspaper reporters, radio and TV newscasters can sit down and discuss their problems. They all agreed that misunderstanding of each others' problems has caused the greatest difficulty. This ties in well with what we have attempted to do here in Iowa by the development of our Medical-Radio-Press Code of Cooperation and the work we have done in holding county medical-radio-press meetings. To date there have been six meetings in Iowa and more are planned for this fall. Dr. Donovan F. Ward, Dubuque, a member of the committee on medical service, appeared as speaker on this medicine and publicity panel. Dr. Ward gave the viewpoint of a county medical society public relations committee chairman on developing the best working relationship between the medical profession and press, radio and TV. He explained the Iowa Medical-Radio-Press Code and the activity of his county society. He told how the relations in Dubuque County have been improved as a result. Dr. Ward's presentation was well received. Many of the delegates expressed pleasure in hearing his complete description of the way many of the medical-radio-press problems have been solved in Dubuque County.

Louis A. Buie of the AMA committee on Constitution and By-Laws spoke following the panel and advised that his committee plans to give attention to the possibility of revising Section 5 of the Medical Ethics Code and asked the doctors present to express their views to their AMA delegates before the next meeting.

The next session dealt with the county medical society's place in community affairs. Mr. Fred R. Jolly, Peoria, Ill., representing the community relations department of Caterpillar Tractor Company, told of the work of his company in assisting social and service groups in planning and putting

on their meetings. Mr. Jolly said that his department had assisted over 900 separate groups, representing a total audience of approximately 50,000, to develop meetings. He recommended that state and county medical societies attempt to give similar assistance. He believes that a hospital should attempt to hold periodical open house at which time management as well as the employees should be shown the inner workings of a hospital.

Mr. Robert Richards, Harrisburg, Pa., executive assistant, Medical Society of the State of Pennsylvania, stressed the importance of working with voluntary health agencies. He said that local county medical societies should be established as the leaders in the health field to serve as advisors to local voluntary agencies concerned with health. He suggested an award for outstanding achievement in voluntary health agency work. In Pennsylvania an award is given each year by the State Medical Society to the voluntary health agency which has been outstanding in its performance. He believes this affords an excellent opportunity for the society to keep posted on what is going on in the various agencies as well as to play a rather important role in carrying out their work.

Mr. Carl F. Weber, Rochester, N. Y., executive secretary, County of Monroe Medical Society, explained how his county medical society has endeavored to work with labor. His society feels that the best approach is to invite the representatives of labor to an informal meeting where they can express their opinions on matters pertaining to medicine. "On these occasions," Mr. Weber said, "we want them to know that we hope to work with them and are extending a genuine hand of friendship." He said that these informal get-togethers have resulted in better understanding, based on mutual respect.

The next speaker of interest to the Iowa delegation was Mr. Aubrey Gates, Little Rock, Ark., AMA field director of the Council on Rural Health, who discussed how to work with farm groups. Mr. Gates said that occasionally he hears a complaint that a doctor's employee has been somewhat discourteous to a farmer or a member of his family. Continuing, he said that farm people are now established on a comparable level with other segments of society because of economic conditions and improved education. He suggests that medical societies call to the attention of the doctors' employees the important role they play in public relations and the effect of their treatment of patients. He discussed briefly the AMA pamphlet, "Winning Ways With Patients." He also said that occasionally, when farmers question the cost of medical care, he recommends the AMA booklet, "Your Money's Worth in Health," as a good answer. He believes doctors should participate in local health councils and should be available to speak on health subjects on invitation from any farm group. He asks greater attention to farm publications in releasing medical articles,

feeling that this medium has not been as well utilized as it could be by medical societies. He also suggested that we should keep in close contact with farm radio directors in order that they can release important medical news to the farm population on their early morning newscasts.

Before the close of the last day of the session, Mr. Leo Brown, director of AMA public relations, presented a special showing of a 30 minute film entitled "Without Fear." This film was produced recently by the International Machinist's Union of California, which termed it a public service presentation. In introducing the film, Mr. Brown described it as the most vicious piece of socialized medicine propaganda ever presented to the American people. Some were of the opinion that the film might have been directed personally by Mr. Oscar Ewing. The AMA *Secretary's Letter* report on the film read, "If you ever have seen a tornado smash into a town, you will have some idea of the effect which this movie had on the medical public relations audience. Some termed it disgusting because it was replete with deliberate lies; others claimed that even intelligent union members would find it revolting because of "childish handling" of obvious medical problems.

"The movie mentioned the American Medical Association by name, and claimed, among other things, that the doctors' organization was directly responsible for holding down the number of qualified young men entering medical schools today." We were told that undoubtedly the union would attempt to show this film or a similar film over local TV stations. According to the *Secretary's Letter*, the movie script is being studied by legal counsel and an informative letter is to be sent to all TV stations throughout the country.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

GUARDIANS OF YOUR HEALTH

November 6 Health Education
November 13 Working Together for Health

EVERYDAY HEALTH PROBLEMS

November 20 Reducing
November 27 Skin Health

WSUI—Tuesdays at 11:45 a.m.

BEFORE THE DOCTOR COMES

November 4 Bleeding
November 11 Foreign Bodies
November 18 Growing Pains

GUARDIANS OF YOUR HEALTH

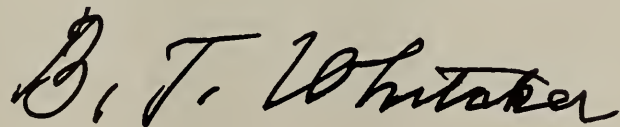
November 25 The Nation's Health Is Good

President's Page

INTERNATIONAL LABOR ORGANIZATION

The complacent belief of many physicians that the threat of socialized medicine has been defeated is far removed from actual facts. We are going to hear more this coming year from the International Labor Organization (I.L.O.), a rather bizarre affiliate of the United Nations. It evidenced some strength last June at a conference in Geneva, where our representatives signed a treaty which commits each member nation to a program of national (socialized) medicine. At the moment, all that is needed to put the proposal in force is a two thirds approval of the United States Senate.

In other words, the social planners are trying to accomplish by treaty what they failed to achieve by lawful legislative action. They are planning to circumvent our own constitutional processes. We are constrained, therefore, to be well informed on the structure and actions of this I.L.O. and to be especially alert to the choice of the men who will compose the next United States Senate.

A handwritten signature in cursive script, reading "B. T. Whitaker". The signature is written in dark ink and is positioned above the printed name.

President

General Manager's Page

COUNTY MEETINGS

May we remind you that your State Society is well prepared to help you plan district or county meetings.

Members of the following state committees are available to spend an evening to better acquaint you with the fine progress they are making:

Rural Health

Industrial Health

Public Relations

Hospital and Professional Relations

Doctor-Patient Relationships

Insurance—Blue Cross and Blue Shield

The officers and office personnel welcome an opportunity to discuss State Society problems with you.

R. S. Bernard, M.D.

General Manager

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

FALL BOARD MEETING

Twenty-two members of the executive board of the Woman's Auxiliary to the Iowa State Medical Society met Sept. 25, 1952 at the new office, 529-36th Street, Des Moines. The meeting was called to order at 10:20 a.m. by the president, Mrs. Lonnie A. Coffin, Farmington. The treasurer, Mrs. Dwight C. Wirtz, Des Moines, reported a balance of \$1,939.87. Reports of committee chairmen and councilors were heard.

Mrs. Fred Moore, Des Moines, chairman of archives, requested that available material be brought to the state office for sorting in order to avoid crowding the files.

Mrs. Herbert C. Merrill, Des Moines, chairman of work for the handicapped, reported the sale of 4,000 articles; 150 people participated in the three sales, which were conducted in Dubuque, Waterloo and Sioux City. She will appear on a panel discussion at a meeting of the Iowa Society for Crippled Children to explain the activities of the medical auxiliary in this field. She is scheduled to speak in several counties in the state.

Mrs. Dean H. King, Spencer, chairman of the Student Nurse Recruitment and Loan Fund, reported the success of a booth at the Clay County Fair. A new Future Nurses Club has been organized at Spencer. Mrs. King recommends that each county chairman keep in touch with prospective students in order to maintain interest.

Mrs. Loyd K. Shepherd, Des Moines, chairman of public relations, read and explained the suggested six-point program:

1. Meetings to build public relations.
2. Cultivation of harmony with allied professions.
3. Projection of our health education program into as many organizations as possible.
4. Necessity for informed members who would willingly serve as public relations agents in their own counties.
5. Cooperation with Blue Cross and Blue Shield; need for learning about plans in order to discuss them.
6. Doctors wives, as public relations agents for their husbands, need to help the doctors see the public viewpoint.

Dr. Frank C. Coleman, Des Moines, legislative

chairman for the Iowa State Medical Society, discussed the coming election. The doctors are now abandoning a bipartisan program. A group of leading doctors and Whitaker and Baxter have formed an Eisenhower-Nixon committee and have appointed an Iowa chairman. This is not an official AMA program, however. Dr. Coleman encouraged everyone to vote and suggested that Auxiliary members assist with car pools, baby sitting and by reminding people to vote. He stated that the profession had always received fair treatment and cooperation from Governor Beardsley and also from the representatives. There have been no dealings as yet with the Democratic nominee. Dr. Coleman read excerpts from the planks of both parties which pertained to the medical profession and he quoted from speeches made by the four candidates. A discussion followed. Mrs. Claire H. Mitchell, Cincinnati, *Yearbook* chairman, distributed the new *Yearbooks* and requested comments on them.

Following a luncheon at the Commodore Hotel, as guests of the Iowa State Medical Society, the board members resumed the meeting at 2:20 p.m. Mrs. Coffin introduced the advisors, Drs. Robert L. Larimer, Sioux City, Lonnie A. Coffin, Farmington and Otis D. Wolfe, Marshalltown. Dr. Ransom D. Bernard, general manager of the Iowa State Medical Society, stated that the help of the Auxiliary would be needed after committee meetings of the Iowa State Medical Society were concluded.

Mrs. Charles H. Flynn, Clarinda, eleventh district councilor, reported on a successful district meeting held in Clarinda. The resignation of the fourth district councilor, Mrs. John D. Lutton, Sioux City, was accepted and Mrs. Robert D. Larimer, Sioux City, was elected to fill the vacancy.

Mrs. Claire H. Mitchell, Cincinnati, Mrs. Allan G. Felter, Van Meter, and Mrs. James A. Downing, Des Moines, were appointed to confer and to make recommendations to the next board meeting in regard to conferring life memberships in the Auxiliary.

Members of the program committee for the annual meeting are: Mrs. Thomas E. Kane, Boone, chairman; Mrs. Fred Moore, Des Moines; Mrs. Donald Hickman, Indianola; Mrs. Dean H. King,

Spencer, and Mrs. Hal A. Childs, Creston. Speakers for the annual meeting were announced.

The nominating committee consists of the following: Mrs. Loyd K. Shepherd, Des Moines; Mrs. Dwight C. Wirtz, Des Moines; Mrs. Charles H. Flynn, Clarinda; Mrs. Howard W. Smith, Woodward; Mrs. George Paschal, Webster City.

The policy established last year of paying six cents per mile for attendance at board meetings will be continued this year.

MRS. KEITH M. CHAPLER, *Publications Chairman*

A PERSONAL

Mrs. Lonnie A. Coffin, state president of the Auxiliary, underwent major surgery at Rochester, Minn., September 30. Dr. Coffin reported her progress as satisfactory. Members of the Auxiliary extend sincere wishes for her speedy recovery.

NOTICE

The state president and the publications chairman urge all chairmen of standing committees to send material for publication in the *Women's Auxiliary News* not later than December 4.

ACTIVITIES OF COUNTY AUXILIARIES

The Black Hawk County chapter of the Auxiliary met for a dinner meeting September 16 at the home of Mrs. Herbert Shulman, Waterloo.

Dr. Max Witte, head of the Independence State Hospital, explained the routine of the hospital, its procedures and the types of treatment. He stressed the importance of early recognition and the need for better understanding of mental health.

Mrs. J. F. Gerken announced that our annual Crippled Children's Sale will be held on November 6, 7 and 8 at Black's Department Store.

There were 45 members present at this first meeting of the season.

MRS. JOHN W. BICKLEY

Fourteen members of the Dallas-Guthrie Medical Auxiliary had luncheon with the doctors at Hotel Pattee in Perry, Iowa, followed by the business meeting at the Perry Clinic. The president, Mrs. Frank A. Wilkie, Perry, presided. The treasurer, Mrs. Charles A. Nicoll, Panora, reported a membership of 30, or 100 per cent. The pledge to the nurses' loan fund has been paid in full. Dues were raised from \$3.00 to \$3.50. A party will be held at the Horse and Buggy Inn in Adel October 23. Mrs. William C. Wildberger, Perry, spoke of the work of the bloodmobile in Perry. She announced that a tea to interest high school

girls in nursing will be held October 25 in Perry. The Auxiliary voted to assume the expense of nurse recruitment programs sponsored by Auxiliary members.

MRS. DONALD W. TODD

MEDICAL LICENSES ISSUED FROM

Dec. 17, 1951 to Sept. 10, 1952

Medical licenses were issued to the following by the Iowa State Board of Medical Examiners from Dec. 17, 1951 to Sept. 10, 1952: Louis Peter Alt, Dubuque; Conrad E. Anderson, Des Moines; Donaciano Encarnacion Baca, Papillion, Neb.; Meyer Backer, Chicago, Ill.; John Nolan Baker, Lincoln, Neb.; Norman Hayward Barnett, Dubuque; John Paul Barthel, Cedar Rapids; Jacqueline Marie Baumeister, Waukeg; James Frederick Boysen, Madelia, Minn.; Rita Margaret Brady, Great Falls, Mont.; George Franklin Canady, Adaza; Eugene Wilbur Coffman, Detroit, Mich.; John Urban Collignon, Dearborn, Mich.; Laurence P. Concannon, Chicago, Ill.; Richard V. M. Corton, Elkins, W. Va.; Dale Henley Davies, Iowa City; James Henry Dunlevy, Jr., Fargo, N. D.; Kenneth Ray Duzan, Drexel, Mo.; Ralph Edwin Dyson, Des Moines; Donald Carl Edgren, Winona, Minn.; Charles Cornell Edwards, Des Moines; John Edward Evans, Winterset; Edward Raymond Farrage, Council Bluffs; Richard Thomas Farrior, Iowa City; Russel Nicholas Frys, Iowa City; Kiyoshi Furumoto, Honolulu, Hawaii; Abraham Gelperin, Des Moines; Walter Clark Giles, Council Bluffs; Fanny T. Ginzberg, New York, N. Y.; Raphael Ginzberg, New York, N. Y.; Jerrold Eugene Hammond, Atlantic; Dewitt Edward Harrison, Dayton, O.; Jerome Benjamin Hathorn, Wichita Falls, Tex.; Charles Bernard Hayes, Lyons, Neb.; Helen I. A. Heneks, Ringsted; William Eugene Heneks, Cedar Rapids; Mary S. H. Hostetter, Ames; David Carey Ivie, Redfield, S. D.; Joseph Foster Kell, Lawrence, Kan.; Lindsay Jack Kirkham, Jr., Kansas City, Mo.; John Kasper Kohlhaas, Algona; George Adams Kremers, Chicago, Ill.; Erling Larson, Jr., Davenport; Michael Joseph Lemus, Des Moines; David A. Losasso, New York, N. Y.; Charles Davidson May, St. Paul, Minn.; George Mongold McArdle, Omaha, Neb.; Robert Warren McConnell, Davenport; Robert Francis McCool, Peoria, Ill.; Daniel Martin Miller, Omaha, Neb.; Francis William Morgan, Ottumwa; Barbara Ann McMurray Mounts, Cedar Rapids; Elvin Earl Olin, Dubuque; Anthony L. Ourada, Ceylon, Minn.; Jerome Fred Paulson, Madison, Wis.; George E. Perret, Iowa City; Elroy Russell Peterson, Ames; Bryant Harvey Roisum, Dubuque; Henry Frederick Rattunde, Des Moines; Marvin David Richards, Council Bluffs; Robert Arnell Sauter, Le Center, Minn.; Verdi Italo Sciscent, Italy; Isaac Haron Shohet, Des Moines; Francis Lenocker Simonds, Omaha; David Williams Sinton, Iowa City; Francis Miles Skultety, Iowa City; George William Smiley, Grinnell; Andrew Donald Smith, Redwood Falls, Minn.; Richard Truax Smith, Hazelton; S. Rodmond Smith, Marshalltown; Harold Swanberg, Quincy, Ill.; James Ridley Thomas, Louisville, Ky.; Howard Pettit Treichler, Bury, N. Y.; Jack William Tupper, Hastings, Neb.; Donald Edward Wolters, Atchison, Kan.; and Dallas Laval York, Emma, Ill.

BLUE CROSS

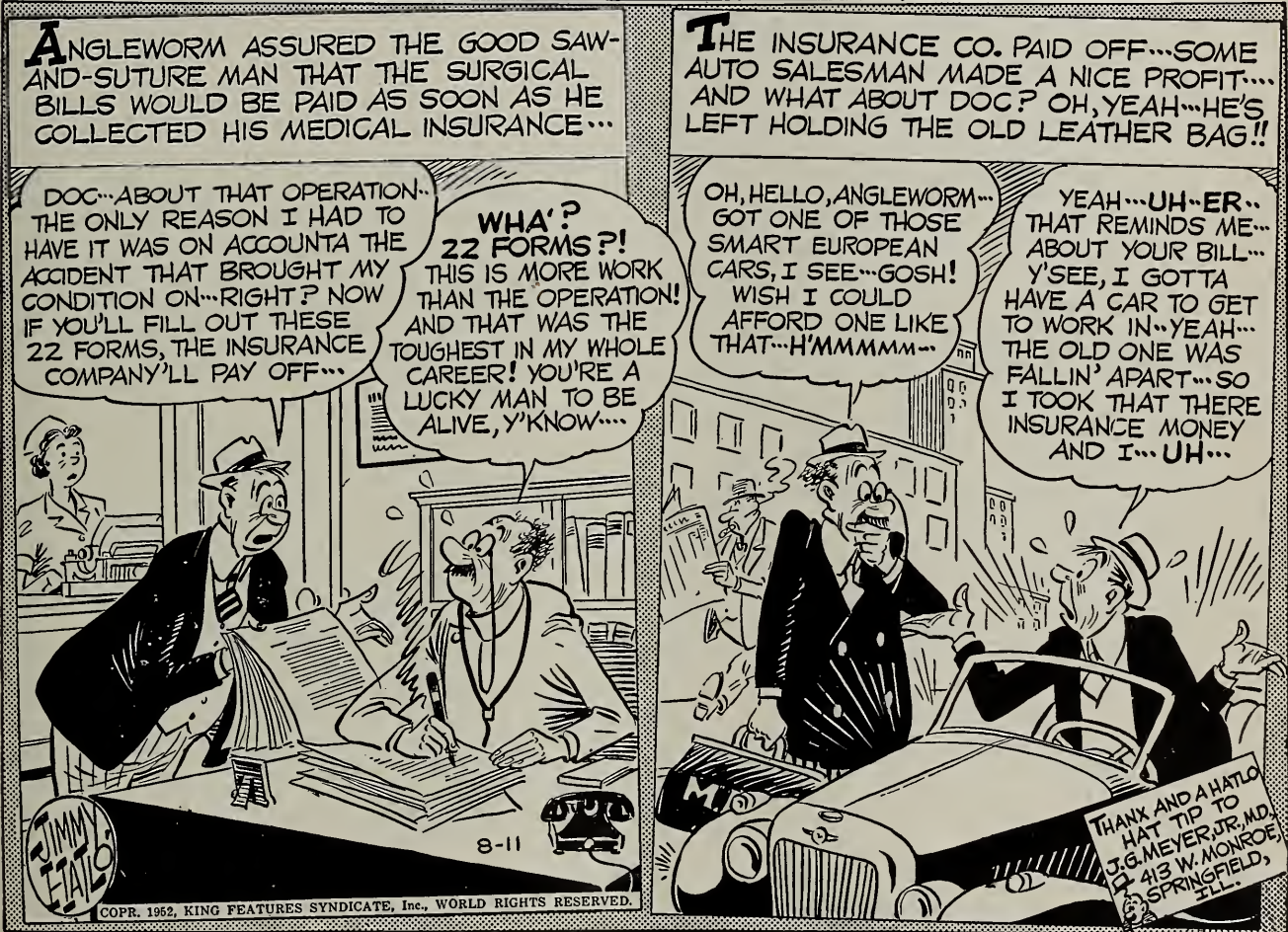


BLUE SHIELD

They'll Do It Every Time

Registered U. S. Patent Office

By Jimmy Hatlo



THIS CAN'T HAPPEN WHEN YOU PARTICIPATE IN BLUE SHIELD!

1. Participating physicians are paid direct. 2. Blue Shield's reporting form is simple, brief and single sheet.

The first meetings of the doctors' secretaries and nurses have proven quite successful from the standpoint of attendance. There were about 45 in attendance at a recent meeting of the secretaries and nurses in Pottawattamie County. The following evening in Woodbury County, Sioux City, 70 were present. The turnout at these meetings has steadily increased each year, which indicates to us that the girls are interested in having Blue Cross-Blue Shield reviewed for them.

As an addition to the program this year, we are discussing public relations as it pertains to the doctors' office personnel. We are using the AMA

pamphlets, "Winning Ways With Patients." They have been most favorably received.

Other meetings for doctors' secretaries and nurses, conducted during October, have been held in Linn, Johnson, Marshall, Black Hawk, Scott and Rock Island counties.

BLUE SHIELD MONTHLY STATISTICS

Sept. 1, 1952

| | |
|------------------------------------|--------------|
| Enrollment | 361,367 |
| Claims Processed for Payment | 7,531 |
| Amount Paid in Claims | \$229,922.13 |

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

Executive Secretary—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

The Academy of General Practice continues to progress successfully both locally and nationally. Its influence is helping to raise the general practitioner's standing and to increase the specialist's awareness of his service.

Many of the excellent programs of the past two years have offered credit toward the required hours of postgraduate work for continued membership.

On November 13 the second educational program for 1952-1953 will be offered at the Hotel Savery in Des Moines. Two excellent men from the University of Kansas Medical Center will address the group: Dr. Richard L. Sutton, Jr., professor and chairman of the Department of Dermatology and Syphilology, and Dr. William P. Williamson, assistant professor of Surgery and chief of the Section of Neurosurgery. We plan to have clinical cases available to assist these men in presenting their subject, as an additional visual opportunity.

Mr. Howard Hill, president of the Iowa Farm Bureau, will address the group during the luncheon.

PROGRAM

Thursday, Nov. 13, 1952

Hotel Savery, Des Moines

- 8:00 a.m. Registration
- 9:00 a.m. "Contactant Dermatitis and Its Complications," by Richard L. Sutton, Jr., M. D., University of Kansas Medical Center, Kansas City, Kansas.
- 10:30 a.m. "Neuritis and Neuralgia," by William P. Williamson, M.D., University of Kansas Medical Center, Kansas City, Kansas.
- 12:15 p.m. Luncheon and Address
"The Farm Bureau and the Doctor," by Mr. Howard Hill, president, Iowa Farm Bureau.
- 2:00 p.m. "Dermatitis of the Hands," by Richard L. Sutton, Jr., M.D.
- 3:30 p.m. "The Neurological Examination," by William P. Williamson, M.D.

Recently one of our group questioned the exclusive use of specialists as speakers at educational meetings of the Academy. While there are qualified general practitioners for this, we feel that the general practitioner is dependent on the specialist for definitive treatment in certain cases, just as the specialist needs the counsel of the family doctor. The important factors in the selection of a speaker are his knowledge of his subject and his ability to present it.

To be successful physicians, we must work together so that all qualified members of the medical profession may be given equal opportunity for social, professional and economic success in the practice of medicine.

FREE COPY OF GP

We who have been receiving the *GP* believe it to be one of the best journals in the medical profession. Word has been received from the office of the American Academy that all general practitioners throughout the state of Iowa will receive a complimentary copy of the December issue. It should demonstrate to nonmembers of the Academy that the organization is educationally worth-while to the family doctor. Inasmuch as the Academy of General Practice has assumed the role of spokesman for men in its field, the general practitioner is urged to align himself with this organization. A card or a letter to the state secretary or to Mrs. Elizabeth Nelson, our new executive secretary, will bring forth application blanks and information.

NEW 1953 DUES

At the last meeting of the board of directors of the Iowa Academy it was agreed to be necessary to increase the state membership dues for active members from \$7.50 to \$10.50. Next year the total dues will be \$25.50. This includes both national and state dues and a year's subscription to the *GP*. The increase will assure continuation of a well-planned educational program and allow necessary funds to secure the finest speakers.

VOTE NOVEMBER 4th!!

THE JOURNAL BOOK SHELF

BOOK REVIEWS

DIAGNOSIS AND TREATMENT OF MENSTRUAL DISORDERS AND STERILITY, by *Charles Mazer, M.D.*, and *S. Leon Israel, M.D.*, (Paul B. Hoeber, Inc., medical book department of Harper & Brothers, New York, \$10.00).

It is now five years since the second edition of this useful book. Advances in the diagnosis and treatment of female endocrinology have been duly evaluated and listed and questionable results have been deleted. This book is primarily for the family physician who sees many of these patients first, and requires the extensive experiences and evaluations of these authors. The gynecologist will already have this book—one of the "musts" in his library.

Gynecologic anatomy and physiology are briefly discussed. Careful study has been given to gynecologic dysfunctions, such as dysmenorrhea, tension, amenorrhea, uterine bleeding, habitual abortions and sterility. An 11 page appendix includes a discussion of the more popular endocrine preparations available, their relative values and dosages.

I highly recommend this book.—*H. E. Kleinberg, M.D.*

THE 1951 YEAR BOOK OF ENDOCRINOLOGY (January, 1951-January, 1952) edited by *Gilbert S. Gordan, M.D.* (The Year Book Publishers, Inc., Chicago, \$5.00).

This is the most recent addition to the well known Year Book series. Most physicians are acquainted with the method by which an editorial board abstracts the most vital articles of the year and presents them in compact, readable form.

Endocrinology has become a major subspecialty since the development of ACTH and cortisone. As the study of internal secretions expands, the literature is becoming correspondingly top-heavy with articles on investigations in this field. The *Year Book* cuts through much of the irrelevant writing and furnishes the busy practitioner with a sufficient knowledge to keep abreast of recent advances.—*A. G. Lueck, M.D.*

POSTGRADUATE MEDICINE AND SURGERY, Surgical Forum, American College of Surgeons; Proceedings of the 37th Clinical Congress. (W. B. Saunders Co., Philadelphia, \$10.00).

In 1941 the American College of Surgeons inaugurated the Surgical Forum, which is held during the yearly Clinical Congress of the College. The primary concept of this new assembly was to permit the presentation of new contributions to surgery by both the young and seasoned surgeons of America. During this ten or 11 year period the Forum has gained momentum. The increasing number of excellent papers and contributions is evidence of this.

This year inaugurates the assembling of these meeting contributions into a single volume. The progress of surgery in America from year to year will be documented in this and future volumes.

This edition has approximately 120 contributions by surgeons and groups from all parts of the country. The papers cover the important and recent advances in surgery, under the headings of physiology, bacteriology, chemistry and the other basic sciences, as related to surgery. Subjects discussed are: lungs, esophagus, stomach, spleen, intestines, liver, portal system, heart, blood vascular system, blood flow, urogenital tract, neurophysiology, neurosurgery, orthopedics, repair, regeneration, endocrines, body fluid, electrolytes, blood volume and shock.

This valuable volume should be of great interest to surgeons and clinicians who are interested in the advance of scientific knowledge and surgery.

It is apparent from the vast scope of the presentations that surgery today is more than just the technical features of operation. It also embraces complex problems of the basic sciences as related to the medical and surgical care of patients.—*L. T. Palumbo, M.D.*

THE 1951 YEARBOOK OF PHYSICAL MEDICINE AND REHABILITATION (December, 1950-January, 1952), edited by *Frank H. Krusen, M.D.* (Year Book Publishers, Inc., Chicago, \$5.50).

The editors are to be congratulated for compiling the valuable articles which appeared in the 1950 literature dealing with this subject. Of special interest is a splendid article on the subject of spina bifida. It offers increased evidence of the importance of physical medicine and rehabilitation.

All physicians will find this volume useful and informative.—*E. M. George, M.D.*

WINGS IN WAITING, A HISTORY OF IOWA METHODIST HOSPITAL, by *Edith M. Bjornstad.* (Des Moines Register and Tribune Co., \$2.50).

With a foreword by Dr. Walter L. Bierring, the author presents a 50 year history of the Iowa Methodist Hospital. While this volume is of particular interest to former interns and the members of the attending staff, other physicians will find the history of this hospital of interest as a factual record of medical progress in Iowa.—*E. M. George, M.D.*

VASCULAR DISEASES IN CLINICAL PRACTICE, by *Irving S. Wright, M.D.* (Year Book Publishers, Inc., Chicago, \$8.50).

The thoughtful practitioner and student of medicine has often asked himself why vascular disease has suffered such systematic neglect. It is true that the well informed physician, by critical reading of Bier's *Hyperemia*, Krogh's *Anatomy and Physiology of Capillaries* and Thomas Lewis' *Blood Vessels of the Human Skin and Their Responses*, might have some fair background on which to base a clinical knowledge

of vascular disease. Allen, Barker and Hines have contributed the encyclopedia in this field, *Peripheral Vascular Disease*. Irving Wright's book is valuable to the practitioner because of its panoramic coverage, based on the rich experience of many years of concentration in the field of vascular disease. The book begins with a useful classification and a detailed discussion of the methods of studying the patient, together with a description of the helpful tests, most of which can be applied at the bedside. With the average age of the population advancing, it is especially important that attention be given to arteriosclerosis. A considerable section is devoted to the subject. This is followed by discussion of the commoner diseases of arteries and veins. The last part of the book treats briefly some of the rarer conditions. Much emphasis is placed on the neurovascular shoulder syndromes. Irving Wright was the first to delineate them clearly and to separate them from other conditions, such as cervical rib and scalenus anticus syndrome. A considerable amount of space is devoted to anticoagulant therapy.

A few differences in opinion should be noted. The old belief that *caput medusae* is common in portal cirrhosis and portal obstruction is repeated. This is perhaps the rarest of all the signs of portal obstruction, occurring in not more than 1 per cent of cases. There is a repetition of some of the outmoded notions of the significance of palmar erythema and vascular spiders, which under certain circumstances can be important clinical signs. It is distinctly not true that vascular spiders are common along the lower anterior margin of the ribs and in the thighs, especially of women. Undoubtedly the vascular changes seen were dilated veins or venous stars. The so-called senile ectasia is badly named since it may be found in people in their teens and twenties.

The book is well printed, easy to read and has relatively few typographical errors. Its study will be valuable to the physician in practice.—W. B. Bean, M.D.

BOOKS RECEIVED

BRAIN SURGEON, the Autobiography of Dr. William Sharpe. The Viking Press, New York, 1952. Price \$3.75.

RELATIVE NEUROANATOMY AND FUNCTIONAL NEUROLOGY, by Joseph J. McDonald, M.Sc.D., M.D., Professor of Surgery, Columbia University; Attending Surgeon, Presbyterian Hospital, New York; Director of the Surgical Service, Francis Delafield Hospital, New York, and Joseph G. Chusid, M.D., Attending Neurologist, St. Vincent's Hospital, New York. Lange Medical Publications, Los Altos, Calif., 1952. Price \$4.00.

THE ESOPHAGUS AND ITS DISEASES, by Eddy D. Palmer, M.D., F.A.C.P., Lieutenant Colonel, Medical Corps; United States Army Chief, Gastrointestinal Section, Walter Reed Army Hospital; Consultant in Gastroenterology to the Surgeon General. Medical Book Department of Harper & Brothers (Paul B. Hoeber, Inc.), New York, 1952. Price \$15.00.

GYNECOLOGIC AND OBSTETRIC PATHOLOGY, with Clinical & Endocrine Relations, by Emil Novak, D.Sc., M.D. (Hon.), Trinity College, Dublin; Tulane), F.A.C.S., F.R.C.O.G. (Hon.). W. B. Saunders Co., Philadelphia, 1952. Price \$10.00.

LIVING WITH CANCER, by Edna Kaehle, Doubleday & Company, New York, 1952. Price \$2.00.

1952 YEAR BOOK OF MEDICINE, edited by Paul B. Beeson, M.D., J. Burns Amberson, M.D., William B. Castle, M.D., Tinsley R. Harrison, M.D., George B. Fusterman, M.D., and Robert H. Williams, M.D. The Year Book Publishers, Inc., Chicago, 1952. Price \$6.00.

CLINICAL PATHOLOGIC CONFERENCE

(Continued from page 540)

ance that this represents histoplasmosis and definitely does not represent a healed miliary type of tuberculosis. In Iowa we have both. We cannot say with any assurance that this is histoplasmosis rather than tuberculosis, so of necessity we have coined a term, calling it a healed, diffuse, granulomatous process. During the acute phase of histoplasmosis we see an infiltration of the lung, diffuse, linear and nodular, scattered diffusely throughout the lung fields. We cannot state from the film whether this is tuberculosis or histoplasmosis, whether it is coccidioidomycosis or some of the xanthomas, such as one sees with Letterer-Siwe's disease. They all have the same appearance roentgenographically. When a lesion such as we have just described heals and there are calcifications deposited within it, the chances of its being a granulomatous lesion are increased to the point that it is considered by us to be just that.

Not all these individuals have enlarged spleens, livers or lesions that can be seen. This is a sub-clinical form. The individual may actually be in good health while carrying the acute infection, even though these lesions are present in his lungs. He does not have to have symptoms. They do heal, usually into fine dot-like calcifications which get larger and larger. Finally they reach this size and become stationary. I would judge that probably about one half of one per cent of all the photo R's we take here have scattered diffuse calcifications. That may be high; I don't know exactly. But we do see quite a few cases in perfectly healthy individuals in which no history of an acute respiratory infection, such as one would associate with the clinical signs of a diffuse disseminated histoplasmosis, has occurred.

Dr. MacQueen: Are there any questions?

Dr. Henry E. Hamilton, Medicine: How did they arrive at the dosage of atabrine for this child?

Dr. MacQueen: I suggested to the resident on the ward that atabrine be given, and the dosage was determined from a standard textbook of therapy.

In routine skin testing for histoplasmosis, there is evidence to suggest that 0.1 ml. of 1 to 5,000 volume of (H 15) histoplasmin is the preferred dilution and type of material to give. It is my impression that the possibility of cross-reactions, particularly with blastomycin, occurs when the dilution is less than this. With a dilution of 1 to 5,000, I think we have a valid testing material.

Staff Member: Was this baby's skin test positive?

Dr. MacQueen: The skin test was not positive. This is frequently true in terminal cases of histoplasmosis as in terminal cases of tuberculosis.

Dr. Layton: There is only one way to make a positive diagnosis in these granulomatous diseases, and that is to identify the organism.

STATE DEPARTMENT OF HEALTH

Walter L. Lanning

PROGRESS REPORT OF THE IOWA TYPHOID CARRIER PROGRAM

(July 1, 1950 through June 30, 1952)

Since nearly all of our typhoid cases result from infection from a carrier source, it is necessary that our work with the typhoid carrier control program be continued and strengthened. We attempt to find a carrier source for every new case of typhoid fever reported. We also follow typhoid fever cases with release stools to make certain whether or not another person may have become a carrier.

The following summary presents the work in this field during the last two years:

| | |
|--|-----|
| Number of active carriers on list as of July 1, 1952 | 77 |
| New carriers discovered or referred from other states (since July 1, 1950) | 14 |
| Carriers removed from list during the period | 73 |
| Those becoming negative following: | |
| cholecystectomy | 23 |
| removal of kidney | 1 |
| surgery for osteochondritis of rib | 1 |
| Those deceased | 36 |
| Those removed by change of address (Reciprocal notifications sent to other states) | 7 |
| Those removed following negative series of urine, feces, and bile cultures | 5 |
| Carriers on old lists "not able to find" during biennium | 8 |
| Questionable carrier status | 3 |
| Carriers remaining positive after cholecystectomy (not all cholecystectomies were done during the two year period) | 4 |
| Active or current carriers thought to be sources of other cases before being detected as carriers | 75 |
| Cases attributed to these carriers | 387 |
| Deaths attributed to these carriers | 21 |
| Number of these carriers with other cases in the family | 70 |
| Cases during the two year period due to known carriers | 0 |

Carriers who received antibiotic treatment have reverted to positive stool cultures soon after discontinuance of the medication. Carriers (23) who have not signed the agreement form are those not found, those in the process of having tests made and those having a questionable or doubtful carrier state.

Typhoid carriers are cooperative almost 100 per cent after they have been instructed on precautionary measures. Second and third visits have been made on most of the carriers who have been found and where the initial visit has been made. No cases of typhoid fever have occurred directly traceable to known carriers during the past two years. Efforts are continuing to locate and instruct the remaining few who have not been visited as yet.

MORBIDITY REPORT

| DISEASE | SEPT. 1952 | AUG. 1952 | SEPT. 1951 | MOST CASES REPORTED FROM THESE COUNTIES |
|-------------------|------------|-----------|------------|---|
| Diphtheria | 1 | 2 | 3 | Polk |
| Typhoid Fever | 5 | 4 | 15 | Ringgold (5) |
| Scarlet Fever | 10 | 2 | 15 | Scattered |
| Smallpox | 0 | 0 | 0 | ..... |
| Measles | 22 | 41 | 13 | Boone, Buena Vista, Linn |
| Whooping Cough | 20 | 11 | 40 | Cerro Gordo, Des Moines, Polk |
| Brucellosis | 30 | 50 | 55 | Polk (3), Sioux (3), others scattered, 2 or 1 to a county |
| Chickenpox | 20 | 20 | 28 | Dubuque, Guthrie, Shelby |
| Meningitis men. | 1 | 3 | 1 | Jackson |
| Mumps | 25 | 42 | 59 | Black Hawk, Clinton, Muscatine |
| Poliomyelitis | 928 | *1150 | 159 | Polk, Pottawattamie, Woodbury |
| Rabies in Animals | 11 | 13 | 12 | Scattered (1 to a county) |
| Tuberculosis | 51 | 46 | 78 | For the state |
| Gonorrhea | 47 | 49 | 68 | For the state |
| Syphilis | 93 | 150 | 144 | For the state |

* Our week ends on Saturday and 1150 shows the total for the 5 Saturdays.

DIABETES WEEK—NOVEMBER 16 THROUGH 22, 1952

According to the best available estimates, there are about a million undiagnosed diabetics in the United States. In addition, approximately two million more individuals in this country are potential diabetics whose disease may become apparent as time passes.

Since this serious chronic disease is easily and inexpensively discovered, the American Diabetes Association will launch its fifth nationwide Diabetes Detection Drive November 16 to 22. The Drive is an important part of the case-finding and health education program of the Association. It is sponsored and directly conducted by the medical profession working through local medical societies, in cooperation with public spirited lay groups in each community. The primary objective is an intensive screening program of the local population for hidden diabetics.

A successful screening campaign during Diabetes Week requires no elaborate equipment. It can be conducted with minimum expenditure by using all volunteered local resources. It involves no public fund-raising. Rather, it depends for its effectiveness on the organizational effort volunteered by the local medical profession and interested public agencies and lay groups.

Encourage citizens of your community to see their personal physician or a Testing Center for a diabetes test. Cooperate to stamp out diabetes!

IOWA STATE SOCIETY OF MEDICAL TECHNOLOGISTS

The fall meeting of the Iowa State Society of Medical Technologists is scheduled for November 1 in Cedar Rapids.

SOCIETY PROCEEDINGS

MEETINGS

Clayton

Clayton County Medical Society met in Elkader October 3. Dr. Cluley C. Hall, Maynard, district councilor, discussed economic and social problems facing the general practitioner.

Linn

Dr. Charles D. May, professor and head of the department of Pediatrics, University Hospitals, Iowa City, spoke on "Nutritional Factors in Blood Formation" at the Linn County Medical Society dinner meeting September 11 at the Montrose Hotel, Cedar Rapids.

Page

Members of the Page County Medical Society met September 17 at the Clarinda Country Club for an afternoon and evening meeting. Speakers were Dr. Robert Tidrick, professor and chief of the department of surgery, State University of Iowa; Dr. Albert McKee, professor of the department of bacteriology; Dr. Robert Hardin, professor of the department of internal medicine, and Dr. John Randall, professor and chief of the department of obstetrics and gynecology, also of the University.

Polk

Dr. Henry W. Woltman, Rochester, Minn., spoke on neurologic disorders at the meeting of the Polk County Medical Society held at the Hotel Savery, Des Moines, September 17. Twenty new members, including two resident physicians and nine interns in local hospitals, were introduced.

Sac

Dr. James H. Taylor, Des Moines, spoke on painful shoulders and disorders of the spine at the meeting of the Sac County Medical Society September 25. The group met at the Park Hotel, Sac City.

Scott

Dr. Walter L. Bierring, commissioner of health of the state of Iowa, and a native of Davenport, spoke at the Scott County Medical Society meeting October 7. His topic was "Scott County Medicine—Then and Now."

Wapello

Dr. Horace M. Korn, Iowa City, addressed the members of the Wapello County Medical Society at St. Joseph's Hospital, Ottumwa, October 7.

Woodbury

Members of the Woodbury County Medical Society met September 16 at the Hotel Mayfair, Waterloo. Dr. Charles D. May, professor and head of the department of pediatrics, State University of Iowa, discussed "The Nutritional Factors in Blood Formation."

PERSONALS

Dr. Richard D. Acker, Waterloo, has joined his father, **Dr. Wesley H.**, in practice in Waterloo.

Dr. Acker was graduated from the SUI College of Medicine in 1951. He interned at St. Luke's Hospital, Duluth, Minn.

Dr. Keith D. Banks, formerly of Creston, has located in Knoxville. A 1951 graduate of the SUI College of Medicine, Dr. Banks served his internship at Alameda County Hospital, Oakland, Calif.

Dr. Frank N. Bay, Albia, and **Drs. Vernon B. Blaha** and **Russell M. Wolfe**, Marshalltown, were recently named to the degree of fellowship in the International College of Surgeons.

Dr. Thomas C. Bolton, Sioux City, has joined the O'Donoghue Orthopedic Group there. Dr. Bolton was graduated from the Northwestern University Medical School, Chicago, in 1947. He interned at Cook County Hospital, Chicago.

Dr. Gerald F. Brown, formerly of Grand Forks, N. D., has associated with **Dr. John D. Paul**, Anamosa. Dr. Brown is a 1933 graduate of the University of Chicago School of Medicine. He served his internship and residency at the University of Wisconsin General Hospital and, in 1947, was certified by the American Board of Obstetrics and Gynecology.

Dr. Richard V. M. Corton, Waterloo, has begun practice there. A 1945 graduate of the SUI College of Medicine, Dr. Corton interned at Pennsylvania Hospital, Philadelphia.

Dr. M. A. Kadel, Laurens, has joined **Dr. Carl D. Oelrich** of the Oelrich Clinic, Sioux Center.

Dr. John J. Lesiak, formerly of Taunton, Mass., has located in Tripoli. Dr. Lesiak was graduated from the Creighton University School of Medicine in 1951. He interned at Mercy Hospital, Des Moines.

Dr. Enfred E. Linder, Pomeroy, has located in Eldora. Dr. Linder is a 1951 graduate of the SUI

College of Medicine. He interned at the Los Angeles County Harbor General Hospital.

Dr. Robert F. McCool, formerly of Peoria, Ill., has begun practice in Clarion. A 1946 graduate of the St. Louis University School of Medicine, Dr. McCool interned at Miller Hospital, St. Paul, Minn., and served a surgical residency at Peoria Methodist Hospital during the past year.

Dr. John H. McCullough, formerly of Waukon, has located in Dallas, Tex.

Dr. James B. Blair, Cherokee, and **Dr. Francis R. McFadden**, Davenport, have been awarded the American College of Surgeons fellowship.

Dr. Donald Paulson, formerly of Keystone, has opened practice in Victor. He is a 1949 graduate of the SUI College of Medicine. Dr. Paulson interned at St. Luke's Hospital, Cleveland, O.

Dr. Martin O. Stauch, formerly with the United States Army, has located at Moorhead. Prior to military service Dr. Stauch practiced at Whiting.

Dr. Arthur Steindler, Iowa City, has been elected a vice president of the United States chapter of the International College of Surgeons.

Dr. Paul F. Temple has resumed practice in Steamboat Rock after two years of army service in Korea.

Dr. Robert E. Underriner, formerly of Sioux City, has entered an association with **Dr. Emerson B. Dawson**, Fort Dodge. Dr. Underriner is a 1951 graduate of the Creighton University School of Medicine. He served his internship at St. Catherine's Hospital, Omaha.

Dr. Robert R. Updegraff, a native of Boone, has joined **Drs. James A. and Arthur H. Downing**, Des Moines, in the practice of otolaryngology and broncho-esophagology. Dr. Updegraff is a January, 1943 graduate of the SUI College of Medicine. The remainder of the year he interned at Iowa Methodist Hospital.

Dr. Glenn L. Walker, formerly of Iowa City, has located in Burlington for the practice of ophthalmology.

Dr. J. Stephen Westly, Manly, has associated with **Drs. Leslie W. Swanson** and **Harry G. Marinos**, Mason City, in the practice of internal medicine. Dr. Westly was graduated from the SUI College of Medicine in 1944. He interned at City Hospital, Akron, O., in 1945, and from 1946 through 1950 he served a residency in internal medicine at Veterans Hospital, Des Moines.

Dr. Reuben B. Widmer, Winfield, presented a

paper on "Tuberculin Skin Testing in General Practice" at the clinical session of the Iowa Trudeau Society at Sunnyslope Sanitarium, Ottumwa.

Dr. Max E. Witte, Independence, addressed the Auxiliary to the Black Hawk Medical Society recently in Waterloo. His subject was the procedures used in treating various types of mental illness.

Dr. Jesse H. Woolfolk, Des Moines, has resumed practice in his former office after serving with the Air Force for two years.

DEATH NOTICES

Dr. Raleigh Ankery Buckmaster, 75, Dunkerton physician for 41 years, died September 21 in St. Francis Hospital, Waterloo, of a heart ailment. Dr. Buckmaster was graduated from the Northwestern University School of Medicine, Chicago, in 1903. He was a member of the Black Hawk County and Iowa State Medical Societies at the time of his death.

Dr. Francis Argyle Ely, 76, Des Moines psychiatrist, died of a stroke September 25 at Iowa Methodist Hospital. Dr. Ely received his medical degree from the SUI College of Medicine in 1898 and was the first full-time intern at University Hospital. He was chairman of the Medicolegal Committee of the Iowa State Medical Society and a life member of the organization as well as of the Polk County Medical Society.

Dr. Wallace Gilmour Laidley, 76, Ogden, died September 28 in Boone County Hospital of a cerebral hemorrhage. Dr. Laidley was graduated from Queen's University Faculty of Medicine, Kingston, Can. in 1906. He was a member of the Boone County and Iowa State Medical Societies at the time of his death.

Dr. Edward Charles Meggers, 63, formerly of McGregor, died September 5 at Palo Alto, Calif., his home for the past two years. He was a graduate of the University of Illinois College of Medicine in 1917. Until his recent retirement, Dr. Meggers was a member of the Clayton County and Iowa State Medical Societies.

Dr. Burke Powell, 78, died at his Albia home September 5 after a lingering illness. A graduate of the Marion-Sims College of Medicine, St. Louis, Mo., Dr. Powell took postgraduate work in Heidelberg, Germany. He was a life member of the Monroe County and Iowa State Medical Societies.

Dr. Cyrus Cleveland Rambo, 67, died at Greater Community Hospital, Creston, September 19. He was graduated from the University of Colorado School of Medicine in 1911. Dr. Rambo was a member of the Union County and Iowa State Medical Societies at the time of his death.

Dr. Delmar Bryant Sollis, 68, eye, ear, nose and throat specialist in Chariton for 30 years, died September 15 of a heart ailment at his home. Dr. Sollis was graduated from the Ensworth Medical College, St. Joseph, Mo., in 1914. At the time of his death he was a member of the Lucas County and Iowa State Medical Societies.

Dr. Louis Franklin Talley, 70, Marshalltown, died at University Hospital, Iowa City, September 11. He was graduated from the Bennett Medical College, Chicago, in 1907. Dr. Talley was a member of the Marshall County and Iowa State Medical Societies at the time of his death.

Dr. William Eugene Wolcott, 67, formerly of Des Moines, died September 3 in a private hospital in Council Bluffs. Dr. Wolcott was graduated from the SUI College of Medicine in 1910. He was a member of the Polk County and Iowa State Medical Societies at the time of his death.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of October 10, 1952

| | |
|---|---|
| Ackerman, J. H., Clarksville (Tallahassee, Fla.) ... Senior, Asst. Surg., U.S.P.H.S. | Johnson, F. N., Madrid (San Antonio, Texas) 1st. Lt., U.S.A.F. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) Major, U.S.A. | Johnson, M. H., Iowa City (APO New York, N. Y.) Capt., A.U.S. |
| Bartholomew, R. D., Lake City (Walnut Creek, Calif.) Lt. (j.g.), U.S.N.R. | King, R. E., Des Moines (APO San Francisco, Calif.) Capt. A.U.S. |
| Benge, D. K., Dows (APO San Francisco, Calif.) Capt., U.S.A. | Kruse, R. H., Conrad (Pearl Harbor, T. H.) Lt., U.S.N.R. |
| Benton, J. S., Des Moines 1st. Lt., A.U.S. | Kuehn, W. G., Clarinda (APO San Francisco, Calif.) Lt. (j.g.), U.S.N.R. |
| Bogle, W. C., Marion U.S.N.R. | Kurth, R. J., Waterloo (Minneapolis, Minn.) Capt., U.S.A.F. |
| Braatelen, N. T., Des Moines (Camp Carson, Colo.) 1st. Lt., U.S.A.F. | Landis, S. N., Des Moines (Shreveport, La.) Major, U.S.A.F. |
| Brown, R. C., Mason City (Kansas City, Kan.) Capt., A.U.S. | Leiter, E. R. K., Des Moines (Bangor, Me.) Capt., U.S.A.F. |
| Camp, J. R., Thompson (FPO San Francisco, Calif.) Lt., U.S.N.R. | Merkel, B. M., Des Moines (Greensville, S. C.) Col., U.S.A.F. |
| Carson, R. W., Winterset (APO San Francisco, Calif.) 1st. Lt., A.U.S. | Middleton, W. H., Central City (Quantico, Va.) U.S.N.R. |
| Dalager, R. D., Ottumwa (Annapolis, Md.) U.S.N.R. | Montgomery, A. E., Jefferson (APO San Francisco, Calif.) Lt. Col., A.U.S. |
| Davidson, M. C., Emmetsburg (El Paso, Tex.) Col., A.U.S. | Mulder, L., Sioux Center (Sioux Falls, S. D.) Capt., U.S.A.F. |
| Davis, S. K., Des Moines (Seattle, Wash.) Capt., U.S.A.F. | Neagle, P. E., Dubuque (Sault Ste. Marie, Mich.) Capt., A.U.S. |
| Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.) 1st. Lt., U.S.A.F. | Nicholson, R. W., Paton (APO Seattle, Wash.) 1st. Lt., A.U.S. |
| Dooly, J. E., Fort Dodge (Pleasanton, Calif.) Capt., U.S.A.F. | Nordin, C. A., Des Moines (Lackland Field, Texas) 1st. Lt., U.S.A.F. |
| Fitch, R. E., Des Moines (Bangor, Me.) 1st. Lt., U.S.A.F. | Odell, J. E., Iowa City (Seattle, Wash.) Lt., U.S.N. |
| From, Paul, West Des Moines (San Antonio, Texas) 1st. Lt., U.S.A.F. | Paul, R. E., Des Moines U.S.N.R. |
| Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) U.S.A.F. | Puntenney, A. W., Boone U.S.N.R. |
| Greco, D. J., Des Moines (APO San Francisco, Calif.) 1st. Lt., A.U.S. | Ruble, R. L., Nevada (Camp Chaffee, Ark.) A.U.S. |
| Gustafson, J. E., Des Moines (Far East Command) 1st. Lt., A.U.S. | Saunders, R. J., (Colfax) (San Antonio, Texas) 1st. Lt., U.S.A.F. |
| Horton, R. R., Algona (Seattle, Wash.) Lt., U.S.N.R. | Schultz, M. H., Waterloo Capt., U.S.A.F. |
| Jensen, K. V., Newton (El Paso, Texas) Capt., U.S.A.F. | Shaffer, F. J., Iowa City Col., U.S.A.F. |
| Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) Capt., U.S.A.F. | Smith, C. B., Iowa City (Ft. Sam Houston, Texas) Capt., A.U.S. |
| | Stutsman, R. E., Washington (Miami, Fla.) Cmdr., U.S.N. |
| | Tempel, P. F., Steamboat Rock Capt., A.U.S. |
| | Thistlewaite, E. A., Des Moines (Riverside, Calif.) 1st. Lt., U.S.A.F. |
| | Thomas, J. H., Rock Rapids (APO San Francisco, Calif.) Capt., U.S.A.F. |
| | Tice, W. K., Iowa City (Kansas City, Kan.) 1st Lt., A.U.S. |
| | Tyler, D. E., Shenandoah (Great Lakes, Ill.) U.S.N.R. |
| | Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) Capt., U.S.A.F. |
| | von Lackum, L. S., Oelwein (Great Lakes, Ill.) Lt., U.S.N.R. |
| | Voorhees, P. H., Ottumwa (Washington, D. C.) U.S.N.R. |
| | Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) Lt., U.S.N.R. |
| | Walz, D. V., Le Mars (Sioux Falls, S. D.) 1st. Lt., U.S.A.F. |
| | Wehrmacher, W. H., Iowa City (Oceanside, Calif.) U.S.N.R. |
| | Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.) 1st. Lt., A.U.S. |
| | *Wilkins, D. S., Iowa City (APO San Francisco, Calif.) Capt., A.U.S. |
| | Witte, H. J., Marathon (San Francisco, Calif.) Lt. Col., A.U.S. |
| | Young, R. A., Clarion (Ft. Sam Houston, Tex.) Capt., A.U.S. |
| | Zeilenga, R. H., Orange City (Madison, Wisc.) 1st. Lt., U.S.A.F. |

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

MEETING OF THE COMMITTEE ON HOSPITAL AND PROFESSIONAL RELATIONS Sept. 14, 1952

The Committee on Hospital and Professional Relations met in the new office building Sunday morning, September 14, 1952, with the following persons present: Doctors C. H. Stark and W. K. Cooper of Cedar Rapids, B. T. Whitaker of Boone, G. F. Harkness of Davenport, C. T. Maxwell of Sioux City, E. M. Kersten of Fort Dodge, Harvey Eastburn of Burlington, Fred Sternagel of West Des Moines, Martin Olsen, R. D. Bernard, E. P. Lovejoy, J. T. McMillan, and R. F. Birge of Des Moines, together with Mr. W. H. Sherin, D. L. Taylor, P. C. Irwin and W. F. Poorman of Des Moines.

Meeting was called to order by Dr. Stark, chairman, and the resolution referred to the committee by the House of Delegates was read and discussed. This dealt with the practice of radiology, pathology and anesthesiology and the problems created by their inclusion in hospital service plans. The matter was discussed for several hours and then a resolution similar to that for the House of Delegates was prepared for submission to the Executive Council.

The committee also approved of a resolution dealing with the field of practice of the American Board of Oral Dental Surgery and asked that the Executive Council also act on this resolution.

The meeting adjourned at 4:30 p.m.

MEETING OF THE BOARD OF TRUSTEES Sept. 25, 1952

The Board of Trustees of the Iowa State Medical Society met in the new office building Thursday morning, September 25, 1952, with the following persons present: Trustees L. A. Coffin, Farmington, J. W. Billingsley, Newton, and W. L. Downing, Le Mars; President B. T. Whitaker, Boone; President-Elect R. N. Larimer, Sioux City; Dr. Bernard and Don Taylor.

Minutes were read and approved; bills were authorized; use of emergency gas heat advised until application for natural gas is approved, and representatives to the North Central Conference discussed. Both Dr. Bernard and Don Taylor presented reports of their activities for the past month.

Replacement of two typewriters was authorized; Dr. L. K. Meredith was named chairman of the Medicolegal Committee to fill the place vacated by the death of Dr. Francis A. Ely; a committee was appointed to serve on the loan fund proposed by Dr. G. H. Scanlon; Miss McCord was thanked for her work in connection with building and furnishing the new office, and a bond was ordered purchased for her. Meeting adjourned at 10 a.m.

MEETING OF THE EXECUTIVE COUNCIL Sept. 25, 1952

The Executive Council met in the new office Thursday morning, September 25, 1952, with the following persons present: B. T. Whitaker, R. N. Larimer, A. B. Phillips, L. A. Coffin, J. W. Billingsley, W. L. Downing, C. C. Hall, C. H. Cretzmeyer, M. T. Morton, P. W. Brecher, E. M. Kersten, O. D. Wolfe, H. A. Housholder, C. A. Boice, E. B. Howell, I. K. Sayre, Oscar

Alden, G. V. Caughlan, George Braunlich and J. E. McFarland. Nonmembers of the Executive Council in attendance were Drs. G. H. Scanlon, Iowa City, R. E. Smiley, Mason City; R. D. Bernard, Des Moines; Mr. Paul Williamson and Mr. Don Taylor.

Meeting was called to order at 10:15 by Dr. Whitaker. The first matter of business was discussion of a resolution on the practice of anesthesiology, radiology and pathology and their relation to Blue Cross-Blue Shield. This stemmed from a resolution presented to the House of Delegates in April which was referred to the Committee on Hospital and Professional Relations. After discussion, the resolution was referred to a small committee for re-wording and was approved as follows:

"Whereas, the practice of anesthesiology, pathology and radiology is the practice of medicine, and

"Whereas, only licensed physicians or their representatives (Code of Iowa, 1950, Chapter 8, Paragraph 3) can legally engage in the practice of medicine,

"Be It Resolved that the Iowa State Medical Society affirms its conviction that anesthesiology, pathology and radiology services may be legally rendered only by or under the direct supervision of licensed doctors of medicine, and

"Be It Therefore Resolved that the Iowa State Medical Society shall call to the attention of Iowa Medical Service (Blue Shield), and Iowa Hospital Service Inc. of Iowa and Associated Hospital Service Inc. of Sioux City (Blue Cross), that certain inconsistencies exist pertaining to insurance plans which provide for services in the fields of anesthesiology, pathology and radiology, to wit, that coverage is provided in hospital service contracts that logically belongs in medical service contracts; and

"Be It Further Resolved that Iowa Medical Service, Iowa Hospital Service, and Associated Hospital Service and the Iowa Hospital Association shall be invited to confer with representatives of the Iowa State Medical Society and other interested parties in an effort to evolve revisions of their policies which will correct said inconsistencies."

Next matter of discussion was a policy regarding appearance on WOI-TV. AMA policy frowns on debates; this was approved by the Executive Council. Use of public service time on WOI-TV for propaganda purposes was discussed and it was voted to send a protest to Mr. Hull, director of the station, and President Friley over such allocation of time.

Dr. Scanlon discussed the need for a loan fund for medical students. He proposed that an Iowa City bank be made trustee for a loan fund, doctors over the state to loan money at four per cent; the bank to loan this money to eligible medical students at five per cent; a committee from the State Society and the University, plus one member from the bank, to draw up rules and regulations and administer the fund. This was approved by the Executive Council.

The Executive Council also approved a resolution presented to the AMA by Dr. Gordon Harkness in regard to the field of practice of oral dental surgeons.

After a recess for lunch, the group heard Dr. Smiley explain the program of the Iowa Tuberculosis and Health Association, approved it and commended Dr. Smiley.

The final matter of business was whether the State Society wanted a group health and accident plan for all its members. The consensus seemed to be there was no great demand for it. The meeting adjourned at 3 p.m.

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1952-1953

President Ben T. Whitaker, Boone
President-Elect..... Robert N. Larimer, Sioux City
First Vice President..... Elias B. Howell, Ottumwa
Second Vice President..... Lester C. Kern, Waverly
Secretary..... Allan B. Phillips, Des Moines
Treasurer..... N. Boyd Anderson, Des Moines

COUNCILORS

Term
Expires

First District—Cluley C. Hall, Maynard.....1955
Second District—Charles H. Cretzmeyer, Algona.....1953
Third District—Matthew T. Morton, Estherville.....1954
Fourth District—Paul W. Brecher, Storm Lake.....1955
Fifth District—Ernest M. Kersten, Fort Dodge.....1954
Sixth District—Otis D. Wolfe, Marshalltown.....1955
Seventh District—Harold A. Housholder, Winthrop.....1953
Eighth District—Clyde A. Boice, Washington, Secretary.....1954
Ninth District—Elias B. Howell, Ottumwa.....1953
Tenth District—Ivan K. Sayre, St. Charles.....1954
Eleventh District—Oscar Alden, Red Oak.....1955

TRUSTEES

Lonnie A. Coffin, Farmington, Chairman.....1953
John W. Billingsley, Newton.....1954
Wendell L. Downing, LeMars.....1955

DELEGATES TO A. M. A.

Term
Expires

George Braunlich, Davenport.....January 1, 1955
Julian E. McFarland, Ames.....January 1, 1953
Gerald V. Caughlan, Council Bluffs.....January 1, 1954

ALTERNATE DELEGATES TO A. M. A. Term Expires

Frank G. Ober, Burlington.....January 1, 1955
Ernest M. Kersten, Fort Dodge.....January 1, 1953
Donovan F. Ward, Dubuque.....January 1, 1954

EXECUTIVE COUNCIL

Ben T. Whitaker, Chairman.....Boone
Robert N. Larimer.....Sioux City
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines
Lonnie A. Coffin.....Farmington
John W. Billingsley.....Newton
Wendell L. Downing.....LeMars
Cluley C. Hall.....Maynard
Charles H. Cretzmeyer.....Algona
Matthew T. Morton.....Estherville
Paul W. Brecher.....Storm Lake
Ernest M. Kersten.....Fort Dodge
Otis D. Wolfe.....Marshalltown
Harold A. Housholder.....Winthrop
Clyde A. Boice.....Washington
Elias B. Howell.....Ottumwa
Ivan K. Sayre.....St. Charles
Oscar Alden.....Red Oak
George Braunlich.....Davenport
Julian E. McFarland.....Ames
Gerald V. Caughlan.....Council Bluffs

THE JOURNAL

Everett M. George.....Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

Ben T. Whitaker, Chairman.....Boone
Robert N. Larimer.....Sioux City
Allan B. Phillips.....Des Moines
N. Boyd Anderson.....Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City
Henry C. Scharnweber.....Boone
Floyd M. Burgeson.....Des Moines

GRIEVANCE COMMITTEE

Term
Expires

Leo C. Kuhn, Decorah.....1954
Leslie W. Swanson, Mason City.....1953
Thomas L. Ward, Arnolds Park.....1954
John W. Bushnell, Sioux City.....1953
Lester D. Powell, Des Moines.....1954
S. Dale Porter, Grinnell.....1953
Joseph W. Lawrence, Dubuque.....1954
William C. Goenne, Davenport.....1953
Elmer A. Larsen, Centerville.....1954
Lester E. Hooper, Indianola.....1953
Charles H. Flynn, Clarinda.....1954

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines
John W. Billingsley.....Newton
John D. Conner.....Nevada
Ben T. Whitaker.....Boone
Allan B. Phillips.....Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Donald C. Conzett, Chairman.....Dubuque
F. Harold Entz.....Waterloo
Lee F. Hill.....Des Moines
John H. Randall.....Iowa City
George H. Scanlon.....Iowa City

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines.....1953
Loren K. Meredith, Des Moines.....1955
Eugene F. Van Epps, Iowa City.....1954

COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman.....West Des Moines

Insurance

Martin I. Olsen.....Des Moines

Public Information—Doctor-Patient Relationships

Otto N. Glesne, Chairman.....Fort Dodge
Donovan F. Ward.....Dubuque
Cecil W. Seibert.....Waterloo
Edward H. Files.....Cedar Rapids
William M. Sproul.....Des Moines

Veterans' Affairs

Roy C. Gutch.....Chariton

Allied Professions

James E. Reeder, Chairman.....Sioux City

John B. Thielen.....Fonda
Eugene Smith.....Waterloo

Labor and Industry

Tom D. ThrockmortonDes Moines

Hospital and Professional Relations

Callistus H. Stark, Chairman.....Cedar Rapids
Ernest M. Kersten.....Fort Dodge
Gordon F. Harkness.....Davenport
Richard F. Birge.....Des Moines
Charles T. Maxwell.....Sioux City
Wayne K. Cooper.....Cedar Rapids
Nathaniel G. Alcock.....Iowa City

Relief and Health Agencies

Frank D. McCarthy, Chairman.....Sioux City
Social Welfare—Channing Smith.....Granger
TB and Heart—Ralph E. Smiley.....Mason City
Polio—Don H. Penly.....Cedar Falls
Crippled Children, Cancer, Red Cross, Women's Clubs,
AAUW, etc.—John C. De Meulenaere.....Grinnell

Health Education

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—

John D. Conner.....Nevada
Henry C. Scharnweber.....Boone
John J. Shurts.....Eldora

Industrial Health

Raymond F. Frech, Chairman.....Newton
Howard H. Smead.....Des Moines
Stanley T. Moen.....Cedar Rapids
Christian B. Luginbuhl.....Des Moines
Harold A. Spilman.....Ottumwa
Carl J. Lohmann.....Burlington
Leo J. Miltner.....Davenport
Harry A. Amesbury.....Clinton

Rural Health

Dwight G. Sattler, Chairman.....Kalona
Elmer A. Larsen.....Centerville
Bruce F. Howar.....Webster City
James M. Tierney.....Carroll
Robert S. Jaggard.....Oelwein

Geriatrics

Charles V. Edwards.....Council Bluffs

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport

CANCER COMMITTEE

Arthur W. Erskine, Chairman.....Cedar Rapids
Donovan F. Ward.....Dubuque
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Siegmond F. Singer.....Ottumwa
John B. Thielen.....Fonda
Kenneth R. Cross.....Iowa City
J. Donald Hennessy.....Council Bluffs
Richard F. Birge.....Des Moines

FRACTURE COMMITTEE

Dwight C. Wirtz, Chairman.....Des Moines
Lee R. Martin.....Council Bluffs
William M. Krigsten.....Sioux City
Carroll B. Larson.....Iowa City
Robert M. Wray.....Cedar Rapids

GENERAL PRACTICE COMMITTEE

Joseph G. Fellows, Chairman.....Ames
Cecil V. Hamilton.....Garner
J. Stewart Jackson.....Mount Pleasant
Thomas D. Kas.....Sutherland
Charles A. Nicoll.....Panora

HEART COMMITTEE

Herbert W. Rathe, Chairman.....Waverly
Forrest H. Coulson.....Burlington
Kenneth K. Hazlet.....Dubuque
Eugene B. Floersch.....Council Bluffs
John C. Shrader.....Fort Dodge

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Jeannette Dean-Throckmorton.....Des Moines
Clyde A. Henry.....Farson
John T. McClintock.....Iowa City
Charles L. Jones.....Gilmore City
Clyde A. Boice.....Washington
Draper Long.....Mason City

COMMITTEE ON MATERNAL AND CHILD HEALTH

Clarence P. Phillips, Chairman.....Muscatine
Robert M. Collins.....Council Bluffs
Howard A. Weis.....Davenport
Harold E. Farnsworth.....Storm Lake
Robert H. McBride.....Sioux City
Lee F. Hill.....Des Moines
Carl A. Hanson.....Waterloo
Maryelda Rockwell.....Clinton

MENTAL HEALTH COMMITTEE

John I. Marker, Chairman.....Davenport
Herbert C. Merillat.....Des Moines
Leo B. Sedlacek.....Cedar Rapids
Marcus B. Emmons.....Clinton
Charles C. Graves.....Des Moines
William E. Ash.....Council Bluffs
Gerald R. Rausch.....Sioux City

NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE

John W. Ferguson, Chairman.....Newton
Edward M. Honke.....Sioux City
Frank G. Ober.....Burlington
William I. Evans.....Sac City
Ross P. Rusk.....Dubuque
Robert C. Hardin.....Iowa City

SCIENTIFIC EXHIBITS COMMITTEE

James T. McMillan, Chairman.....Des Moines
Rubin H. Flocks.....Iowa City
Willard S. Phetepiece.....Davenport

SPEAKERS BUREAU COMMITTEE

Robert B. Stickler, Chairman.....Des Moines
Charlotte Fisk.....Des Moines
Gerald F. Keohen.....Dubuque
Arthur D. Woods.....State Center
Willis M. Fowler.....Iowa City
Carroll A. Brown.....Sioux City
Harold Margulies.....Des Moines

TUBERCULOSIS COMMITTEE

Ralph E. Smiley, Chairman.....Mason City
John C. Parsons.....Des Moines
J. Carl Painter.....Dubuque
Leon J. Galinsky.....Des Moines
William Spear.....Oakdale

COUNTY MEDICAL SOCIETY OFFICERS

| COUNTY | PRESIDENT | SECRETARY | DEPUTY COUNCILOR |
|-----------------------|---------------------------------------|-------------------------------------|---|
| Adair..... | R. E. Wiley, Fontanelle..... | A. S. Bowers, Orient..... | A. S. Bowers, Orient |
| Adams..... | C. L. Bain, Corning..... | J. C. Nolan, Corning..... | A. W. Brunk, Prescott |
| Allamakee..... | M. F. Kiesau, Postville..... | R. R. Jefferies, Waukon..... | J. W. Thornton, Lansing |
| Appanoose..... | E. A. Larsen, Centerville..... | C. F. Brummitt, Centerville..... | E. A. Larsen, Centerville |
| Audubon..... | H. K. Merselis, Audubon..... | A. B. Cloud, Audubon..... | L. E. Jensen, Audubon |
| Benton..... | L. W. Koontz, Vinton..... | N. C. Knosp, Belle Plaine..... | N. C. Knosp, Belle Plaine |
| Black Hawk..... | C. N. Cooper, Waterloo..... | G. D. Phelps, Waterloo..... | C. D. Ellyson, Waterloo |
| Boone..... | R. E. Gunn, Boone..... | A. W. Puntenney, Boone..... | H. C. Scharnweber, Boone |
| Bremer..... | H. W. Rathe, Waverly..... | R. P. Hardwig, Waverly..... | F. R. Sparks, Waverly |
| Buchanan..... | J. W. Barrett, Jr., Independence..... | J. F. Loeck, Independence..... | J. F. Loeck, Independence |
| Buena Vista..... | R. J. Mattice, Sioux Rapids..... | T. E. Shea, Storm Lake..... | H. E. Farnsworth, Storm Lake |
| Butler..... | M. D. Enna, Dumont..... | F. F. McKean, Allison..... | B. Ensley, Shell Rock |
| Calhoun..... | G. S. Rost, Lake City..... | P. Ferguson, Lake City..... | J. H. Faust, Manson |
| Carroll..... | A. R. Anneberg, Carroll..... | J. M. Tierney, Carroll..... | J. R. Martin, Carroll |
| Cass..... | R. H. Moe, Griswold..... | J. F. Moriarty, Atlantic..... | W. F. Giegerich, Atlantic |
| Cedar..... | H. E. O'Neal, Tipton..... | O. E. Kruse, Tipton..... | P. M. Hoffman, Tipton |
| Cerro Gordo..... | S. Brownstone, Clear Lake..... | G. I. Tice, Mason City..... | L. W. Swanson, Mason City |
| Cherokee..... | J. H. Wise, Cherokee..... | D. C. Koser, Cherokee..... | C. E. Broderick, Cherokee |
| Chickasaw..... | A. L. Murphey, Fredericksburg..... | J. H. Ahrens, New Hampton..... | P. E. Gardner, New Hampton |
| Clarke..... | C. R. Harken, Osceola..... | H. N. Boden, Osceola..... | H. E. Stroy, Osceola |
| Clay..... | | G. F. Fieselmann, Spencer..... | C. C. Jones, Spencer |
| Clayton..... | T. W. Lichter, Edgewood..... | A. R. Powell, Elkader..... | P. R. V. Hommel, Elkader |
| Clinton..... | E. T. Carey, Clinton..... | M. E. Barrent, Clinton..... | R. F. Luse, Clinton |
| Crawford..... | J. M. Hennessey, Manilla..... | J. J. Gleeson, Vail..... | R. M. Johnson, Denison |
| Dallas-Guthrie..... | A. G. Felter, Van Meter..... | W. C. Wildberger, Perry..... | C. A. Nicoll, Panora and A. M. Cochrane, Adel |
| Davis..... | R. Schoonover, Bloomfield..... | H. C. Young, Bloomfield..... | |
| Decatur..... | T. R. Viner, Leon..... | G. W. Swanson, Lamoni..... | W. N. Doss, Leon |
| Delaware..... | R. E. Clark, Manchester..... | J. E. Tyrrell, Manchester..... | W. J. Willett, Manchester |
| Des Moines..... | H. Eastburn, Burlington..... | J. F. Sulzbach, Burlington..... | F. G. Ober, Burlington |
| Dickinson..... | P. A. Scott, Spirit Lake..... | R. F. Wolcott, Spirit Lake..... | T. L. Ward, Arnolds Park |
| Dubuque..... | E. T. Thorsness, Dubuque..... | M. S. Lagen, Dubuque..... | D. F. Ward, Dubuque |
| Emmet..... | L. E. Collins, Estherville..... | E. K. Vaubel, Estherville..... | C. S. Kirkegaard, Estherville |
| Fayette..... | L. E. Ketner, Oelwein..... | A. F. Grandinetti, Oelwein..... | |
| Floyd..... | H. A. Tolliver, Charles City..... | E. V. Ayers, Charles City..... | R. A. Fox, Charles City |
| Franklin..... | W. L. Randall, Hampton..... | R. T. Day, Hampton..... | W. L. Randall, Hampton |
| Fremont..... | R. Lovelady, Sidney..... | A. E. Wanamaker, Hamburg..... | R. Lovelady, Sidney |
| Greene..... | M. H. Brinker, Jefferson..... | E. D. Thompson, Jefferson..... | M. H. Brinker, Jefferson |
| Grundy..... | | W. K. Kienzie, Wellsburg..... | E. A. Reedholm, Grundy Center |
| Hamilton..... | O. C. Buxton, Webster City..... | W. B. McGahey, Webster City..... | B. F. Howar, Webster City |
| Hancock-Winnebag..... | T. J. Irish, Forest City..... | A. H. Dulmes, Klemme..... | C. V. Hamilton, Garner |
| Hardin..... | R. A. Eckberg, Hubbard..... | F. N. Cole, Iowa Falls..... | L. F. Parker, Iowa Falls |
| Harrison..... | Hans Hansen, Logan..... | B. E. Kenney, Woodbine..... | F. A. Hanson, Magnolia |
| Henry..... | J. R. Beebe, Mt. Pleasant..... | J. G. Widmer, Wayland..... | J. R. Beebe, Mt. Pleasant |
| Howard..... | C. A. Field, Cresco..... | M. E. Henslin, Cresco..... | P. A. Nierling, Cresco |
| Humboldt..... | J. H. Coddington, Humboldt..... | R. W. Beardsley, Livermore..... | I. T. Schultz, Humboldt |
| Ida..... | E. H. Heilman, Ida Grove..... | J. B. Dressler, Ida Grove..... | M. W. Grubb, Galva |
| Iowa..... | G. W. Howe, Marengo..... | I. J. Sinn, Williamsburg..... | C. F. Watts, Marengo |
| Jackson..... | J. A. Broman, Maquoketa..... | W. C. Zabloudil, Preston..... | F. J. Swift, Maquoketa |
| Jasper..... | J. R. Singer, Newton..... | L. H. Koelling, Newton..... | J. W. Ferguson, Newton |
| Jefferson..... | L. D. James, Fairfield..... | J. W. Castell, Fairfield..... | R. A. McGuire, Fairfield |
| Johnson..... | J. W. Dulin, Iowa City..... | E. J. Boyd, Iowa City..... | G. C. Albright, Iowa City |
| Jones..... | C. R. Smith, Wyoming..... | R. W. Myers, Monticello..... | T. M. Redmond, Anamosa |
| Keokuk..... | A. M. Harwood, Sigourney..... | J. Maxwell, What Cheer..... | D. L. Grothaus, Delta |
| Kossuth..... | J. N. Kenefick, Algona..... | J. M. Schutter, Algona..... | J. G. Clapsaddle, Burt |
| Lee..... | G. C. McGinnis, Ft. Madison..... | W. B. Kasiske, Keokuk..... | F. L. Feighner, Ft. Madison L. C. Pumphrey, Keokuk |
| Linn..... | E. H. Files, Cedar Rapids..... | W. K. Cooper, Cedar Rapids..... | |
| Louisa..... | E. S. Groben, Columbus Jct..... | J. H. Chittum, Wapello..... | J. H. Chittum, Wapello |
| Lucas..... | A. L. Yocom, Chariton..... | R. E. Anderson, Chariton..... | R. E. Anderson, Chariton |
| Lyon..... | A. C. Wubben, Rock Rapids..... | S. H. Cook, Rock Rapids..... | S. H. Cook, Rock Rapids |
| Madison..... | G. J. Anderson, Winterset..... | P. F. Chesnut, Winterset..... | C. B. Hickenlooper, Winterset |
| Mahaska..... | R. M. Collison, Oskaloosa..... | G. S. Atkinson, Oskaloosa..... | E. B. Wilcox, Oskaloosa |
| Marion..... | D. A. Mater, Knoxville..... | W. W. Bourke, Knoxville..... | H. L. Bridgeman, Knoxville |
| Marshall..... | B. M. Biersborn, State Center..... | H. E. Sauer, Marshalltown..... | R. C. Carpenter, Marshalltown |
| Mills..... | W. A. DeYoung, Glenwood..... | T. E. Shonka, Malvern..... | T. E. Shonka, Malvern |
| Mitchell..... | C. F. Watson, Stacyville..... | R. B. Isham, Osage..... | J. O. Eiel, Osage |
| Monona..... | J. L. Garred, Whiting..... | P. L. Wolpert, Onawa..... | C. W. Young, Onawa |
| Monroe..... | G. A. Jenkins, Albia..... | H. J. Richter, Albia..... | H. J. Richter, Albia |
| Montgomery..... | F. A. Hansen, Red Oak..... | H. C. Bastron, Red Oak..... | E. L. Croxdale, Villisca |
| Muscatine..... | W. E. Catalona, Muscatine..... | V. W. Swayze, Muscatine..... | C. P. Phillips, Muscatine |
| O'Brien..... | L. M. Dyke, Sheldon..... | W. S. Balkema, Sheldon..... | T. D. Kas, Sutherland |
| Osceola..... | E. S. Aeilts, Sibley..... | F. M. Rizzo, Sibley..... | F. M. Rizzo, Sibley |
| Page..... | F. S. Sperry, Clarinda..... | S. T. Ramsdell, Clarinda..... | C. H. Flynn, Clarinda |
| Palo Alto..... | J. E. Black, Emmetsburg..... | C. C. Moore, Emmetsburg..... | H. L. Brereton, Emmetsburg |
| Plymouth..... | R. J. Fisch, LeMars..... | L. C. O'Toole, Le Mars..... | H. L. Vander Stoep, Le Mars |
| Pocahontas..... | J. B. Thielen, Fonda..... | C. L. Jones, Gilmore City..... | C. L. Jones, Gilmore City |
| Polk..... | T. B. Throckmorton, Des Moines..... | F. C. Coleman, Des Moines..... | M. T. Bates, Des Moines |
| Pottawattamie..... | K. L. Thompson, Oakland..... | A. M. Pedersen, Council Bluffs..... | G. V. Caughlan, Council Bluffs |
| Poweshiek..... | J. R. Parish, Grinnell..... | L. C. Hickerson, Brooklyn..... | S. D. Porter, Grinnell |
| Ringgold..... | W. G. Doss, Mt. Ayr..... | J. W. Hill, Mt. Ayr..... | E. J. Watson, Diagonal |
| Sac..... | J. H. Stalford, Sac City..... | L. D. Amick, Sac City..... | C. E. Lierman, Lake View |
| Scott..... | P. E. Gibson, Davenport..... | A. B. Hendricks, Davenport..... | P. A. White, Davenport |
| Shelby..... | L. V. Larsen, Harlan..... | J. H. Spearing, Harlan..... | J. H. Spearing, Harlan |
| Sioux..... | A. Bushmer, Orange City..... | C. B. Murphy, Alton..... | W. Doornink, Orange City |
| Story..... | J. W. Thompson, Ames..... | W. B. Armstrong, Ames..... | J. D. Conner, Nevada |
| Tama..... | G. M. Dalbey, Traer..... | A. J. Havlik, Tama..... | A. J. Havlik, Tama |
| Taylor..... | R. W. Boulden, Lenox..... | H. C. Moore, Clearfield..... | G. W. Rimel, Bedford |
| Union..... | M. R. Paragas, Creston..... | H. J. Peggs, Creston..... | C. C. Rambo, Creston |
| Van Buren..... | L. N. Hungerford, Jr., Keosauqua..... | J. T. Worrell, Keosauqua..... | L. A. Coffin, Farmington |
| Wapello..... | W. C. Wolfe, Ottumwa..... | E. B. Hoeven, Ottumwa..... | C. A. Henry, Farson |
| Warren..... | G. A. Jardine, New Virginia..... | D. M. Hickman, Indianola..... | C. A. Trueblood, Indianola |
| Washington..... | J. M. Lloyd, Washington..... | W. S. Kyle, Washington..... | M. L. McCreedy, Washington |
| Wayne..... | C. N. Hyatt, Humeston..... | C. F. Brubaker, Corydon..... | J. H. McCall, Allerton |
| Webster..... | M. G. Sanders, Fort Dodge..... | E. M. Van Patten, Fort Dodge..... | C. J. Baker, Fort Dodge |
| Winneshiek..... | R. M. Dahlquist, Decorah..... | L. C. Kuhn, Decorah..... | L. C. Kuhn, Decorah |
| Woodbury..... | A. Q. Johnson, Sioux City..... | P. W. Osincup, Sioux City..... | D. B. Blume, Sioux City |
| Worth..... | G. S. Westly, Manly..... | B. H. Osten, Northwood..... | G. S. Westly, Manly |
| Wright..... | G. B. Hogenson, Eagle Grove..... | J. R. Christensen, Eagle Grove..... | S. P. Leinbach, Belmont |

The JOURNAL

of the

Iowa State Medical Society

COPYRIGHT, 1952, BY IOWA STATE MEDICAL SOCIETY

Vol. XLII

DES MOINES, IOWA, DECEMBER, 1952

No. 12

ABDOMINAL MALFORMATIONS OF THE NEWBORN REQUIRING IMMEDIATE SURGERY

ROBERT T. TIDRICK, M.D.

AND

GEORGE W. IWEN, M.D.

IOWA CITY

THE ABDOMINAL malformations requiring immediate surgical treatment represent a variety of lesions. They indicate certain principles for the care of the newborn and a high risk of morbidity and mortality, for a number of reasons. Many of the infants falling in this group are premature. Roughly one third have associated anomalies, some of which have a grave influence on life expectancy. Some of the problems of their care are peculiar to young infants. Some of the hazard is associated with failure to recognize these anomalies in the early stages.

The manifestations are few. Chief among them is intestinal obstruction. The second is the presence of a grossly visible anomaly detected at birth, such as omphalocele or absence of anus. The third is the presence of a mass. While this usually does not place the infant in the category of one requiring immediate surgery, there are occasions when this obtains. The fourth is the presence of signs indicating peritonitis, generally due to intestinal perforation from meconium ileus or intestinal atresia. A fifth might be added; persistent jaundice. However, this is hardly included among those requiring immediate surgical correction since some time is required for establishment of diagnosis, carrying the infant past the immediate newborn period.

The lesions for consideration may be classed as follows:

- Intestinal atresia and stenosis
- Duplication of the intestinal tract
- Aganglionic or achalasic megacolon and rectal anomalies
- Errors of intestinal rotation, with volvulus and extrinsic compression of duodenum

From the Department of Surgery, College of Medicine, State University of Iowa, Iowa City.

- Internal hernias
- Diaphragmatic hernia
- Omphalocele
- Meckel's diverticulum and other vitelline duct anomalies
- Meconium ileus

Let us consider the manifestation of intestinal obstruction in more detail. The newborn infant who vomits its feedings should excite suspicion. There may be, in addition, abdominal distention and absence or sparsity of stools. Immediate investigation is in order. The physical examination alone may be singularly unrevealing as to the cause of the obstruction. When definite physical findings are present they are usually abdominal distention, visible or palpable loops of distended bowel, appearance of peristaltic waves in the distended intestine and abnormal peristaltic sounds.

The use of diagnostic radiography is of the greatest aid. Its aid should be enlisted early, not late. The absence of definite physical findings in the newborn infant who continuously regurgitates feedings should not deter the alert physician from early use of radiography. Films of the abdomen should be taken in the several positions, with skillful technical nicety in regard to correct exposure for best soft tissue detail. All margins of the abdomen should be included in the films.

The use of contrast media, particularly barium and lipiodol, has been abused. At the possible risk of entangling argument it is suggested that they be used only after the physician considers these questions:

Will their use add materially to establishing a diagnosis?

Is there danger of aspiration?

Is there likelihood, in the event of oral or upper gastrointestinal administration, of further enhancing intestinal obstruction?

Will there be danger of perforation of the colon if it is to be given by enema?

Will it further weaken a debilitated or premature infant?

In general one should carefully assess what has been obtained by plain film radiography before making the decision.

In the event of evaluating an intra-abdominal mass in the newborn infant, pyelography, barium gastrointestinal tract contrast studies and plain film radiography may all be called into play, for if possible it must be determined whether the mass is intraperitoneal or retroperitoneal.

LESIONS UNDER CONSIDERATION

Intestinal atresia and stenosis rank high in the group of lesions causing obstruction in the neonatal period. In the last 12 we observed coming to operation, 11 represented atresia and only one stenosis. Of these, ten were single and two were multiple in location. Five involved duodenum, four jejunum, one ileum, one transverse colon and one involved all of the left half of the colon. In an additional instance, a valve-like mucosal stenosis was observed and removed at the duodenojejunal junction in an infant with incomplete rotation and volvulus of the small intestine. Five of the group were premature infants.

The diagnosis is usually based on a history of vomiting dating from the onset of first feedings. Distention tends to be upper abdominal in location. Plain radiograms are usually diagnostic. Depletion occurs early, especially in the premature. Operation should be undertaken as soon as possible after making the diagnosis. In the majority of instances side-to-side duodenojejunostomy is performed. Gastrojejunostomy is less desirable. If tremendous distention is present, the use of temporary catheter gastrostomy as proposed by Glover and Barry¹ may lessen the danger of leakage at the suture line.

We have had no recent experience with duplication of the intestinal tract as a cause of obstruction in the newborn, although rare instances have been observed in older infants and in children. It can be a cause of obstruction in this period. Occasionally it is reported in the newborn.²

One should include in the intrinsic causes of obstruction those neurogenic imbalances which later lead to the fully established clinical picture of congenital megacolon. In the newborn period there may be every manifestation of mechanical obstruction.³ In two such instances we observed at operation great distention of both the small and large bowel down to a narrow segment at the rectosigmoid junction. A catheter was passed retrograde through the narrow segment without difficulty. Colostomy may be necessary in some of these, preferably placed far enough proximal that it will not endanger subsequent surgical correction of the megacolon, as advocated by Swenson^{4, 5} and Hiatt⁶ and now generally adopted in the definitive management of this disorder. Resection of the aganglionic segment is not desirable in early infancy.

The anorectal anomalies constitute a relatively frequent cause for immediate surgical treatment in the newborn period, in our experience. We

have treated 29 in the past 12 years. These anomalies of the newborn may be divided into four categories, (1) those with absence of the anal sphincter; (2) those with anorectal membrane or anal stenosis, constituting the so-called "imperforate anus"; (3) those infants with rectal atresia, and (4) those with rectal atresia with fistula communicating with vagina or urinary tract.

Complete absence of the anal sphincter is rare. No completely satisfactory substitute for the external sphincter has been found.

Imperforate anorectal membrane and anal stenosis often lend themselves to simple treatment. The thin imperforate membrane may be easily ruptured. Anal stenosis may be amenable to treatment by incision of the margins or digital rupture and dilatation.

Rectal atresia is the most common of these anomalies. The external anal sphincter is poorly developed; occasionally absent. There is usually a dimple marking the site at which the anal canal should have formed. Frequently a fibrous cord leads from the dimple to the apex of the rectum. The rectum may lie close to the dimple or at a considerable distance. Radiograms of the infant taken in the inverted position as first advocated by Wangenstein and Rice⁷ are of great aid in determining what procedure to employ in the correction of the defect. If these films reveal the rectum to be close to the lead marker representing the anal dimple, immediate correction by "perineal pull-through" is possible. The rectum is mobilized and drawn down through the external anal sphincter if it is present. The anal sphincter is dilated or, if necessary, is incised posteriorly into the line of the anococcygeal raphe. The mobilized rectum is opened and sutured to anal skin. Tension must be avoided. If the radiograms reveal the blind rectal termination to be high in the pelvis, there are two courses open. If the infant is free of other significant anomalies and a reasonably good risk, immediate combined abdominal-perineal "pull-through" can be done. If conditions do not warrant this procedure, immediate formation of a sigmoid colostomy is performed. The limbs should be separated. Distal loop troubles are common.⁸ Perfect anal function is not to be anticipated, for even if there is fairly well developed external anal sphincter musculature, the important internal sphincter function is lacking. However, children utilize *levatores ani* as accessory "pseudo-sphincters" and develop tolerable fecal continence.

Rectal atresia with fistula to bladder or urethra is treated by either perineal or abdomino-perineal "pull-through" with closure of the fistula. If colostomy is all that the infant can tolerate we advocate early "pull-through" operation so that complete separation of the urinary tract from the fecal stream can be accomplished.

In rectal atresia with vaginal fistula, repair can be deferred until the child is four to six years of

age. A staged repair with preliminary colostomy is preferred.

A plea should be made for abandonment of blind perineal stab in rectal atresia. The "blind stab" may produce fecal perineal drainage but is likely to damage the anal sphincter and produce a fistula which is inadequate for evacuation of the colon and difficult to revise at a later date when definitive repair is undertaken.

In the fairly large group of anomalies producing extrinsic obstruction the errors of intestinal rotation rank high. This group includes volvulus of a part or nearly all the intestine and extrinsic band compression of the duodenum, as well as (from an embryologic standpoint) certain of the internal hernias. Those of the duodenojejunal junction area and omphalocele are notable.⁹

The diagnosis of malrotation is usually made by history suggesting intestinal obstruction, followed by confirmatory radiography. We have treated only seven of these in the newborn period in the past 14 years. The obstruction may be partial or intermittent. This delays detection of the anomaly until later in infancy or even in childhood, when many of them are diagnosed.

The treatment should be early surgical correction. Even if the obstruction appears to be based solely on a small intestinal volvulus, the duodenal bands should be located and severed. Search for other sources of intra-abdominal obstruction is in order. Attempts to restore the malrotated bowel to its "proper place" are of dubious value. Fixation to the parietes is probably unwise in the majority of cases. It should be reserved for those rare instances in which there appears to be persistent torsion of mesenteric vessels.

Excluding diaphragmatic hernia, the internal herniations are rare. We have observed obstruction associated with herniation through a defect in the falciform ligament in one instance, the small intestine mesentery in one and into a large duodenojejunal fossa defect in a third.

Diaphragmatic hernia is generally diagnosed radiographically. A wide variety of defects may be encountered. It is imperative to use appropriate radiographic aid in locating the exact location and type of the defect. Very serious technical problems are encountered in repairing the large defects, especially with congenital eventration. Some interesting solutions have been proposed.^{10, 11, 12}

Fortunately, omphalocele is rare. We have repaired seven in the past 12 years. If one is fortunate enough to encounter the situation before rupture or ulceration of the thin amniotic membrane has occurred, there is a reasonable chance for a successful outcome. The procedure consists of excision of the sac down to junction with skin, replacement of the extruded viscera and repair of the defect. If the child is several days of age, replacement of the distended intestinal loops is impossible without aspiration. Repair of the defect

may be simple if the defect is small. If it is extremely large, marsupialization of liver or omentum and peritoneum may be done, followed by a staged closure of the defect. The incidence of associated anomalies is high. Variation in the findings is considerable. We have observed giant Meckel's diverticulum in the amniotic sac recently and in two instances, intussusception of ileum as described by Moore¹³ and others.

In rare instances Meckel's diverticulum anomalies may give rise to intestinal obstruction in the neonatal period. Probably the commonest is the presence of a band running from the tip of the diverticulum to the base of the umbilicus.

Meconium ileus, though rare, may come to the attention of the surgeon. The signs are usually those of perforation of a viscus with peritonitis. Pneumoperitoneum may be observed radiographically. While the condition was first described by Landsteiner¹⁴ in 1904, it is only recently that there has been any hope of relieving the condition. Farber¹⁵ proposed that pancreatic extract be injected in the proximal small bowel, since the relationship to fibrocystic disease and pancreatic deficiency has been rather clearly established. In spite of this the mortality is high, as perforation often occurs early. It is well to consider, however, that a preoperative diagnosis of perforation does not necessarily establish the diagnosis of meconium ileus, as perforation is as likely to be on the basis of atresia.¹⁶

Determining when to operate requires nicety in timing, patience in preparation and close cooperation between the surgeon and physician caring for the infant. The exact time of operation cannot be predetermined; it depends on indications of fluid and electrolyte balance and state of hydration. If dehydration and acidosis or alkalosis have occurred, correction of these imbalances must be promptly effected, checked by appropriate observation and laboratory aids. When the infant's condition is optimal, operation should be performed without an hour's delay. Parenteral fluids are best given by vein. If correction of dehydration is effected at once, it may be less trouble to work through a scalp vein. However, one must be certain that the vein is large enough to permit sufficient volume per hour to avoid waste of time at this critical period. Intermittent injection of subcutaneous fluid is trifling therapy, traumatic, uncertain and costly in time of preparation. With increasing availability of spectrophotometry, cation balance can be much more satisfactorily attained and maintained.

Before operation, the upper gastrointestinal tract should preferably be emptied with an indwelling 10 or 12 F. catheter. This should be left in place during the operation. The use of the gastric tube should be considered obligatory in all instances of intestinal obstruction.

Before operation, appropriate cross match should

be obtained and 250 ml. of blood be available. Rh pattern of the infant's parents should be known if possible, as the antibody titer during the first week of life is very low.

Ankle cutdown should be performed with insertion of a small, polyethylene catheter in the greater saphenous vein. The foot on that side should be properly padded and immobilized. Care should be taken in running the intravenous infusion to prevent overhydration or overloading with sodium. Intake must be carefully measured. This is more easily effected if a small infusion set is used. Marrow transfusion is generally much less satisfactory than the use of a large vein.

The infant should be strapped to a padded board or, if attainable, to an infant's operating table, placed on top of the regular table.

Skin preparation, using an aqueous detergent, should be gentle. The umbilical stump, if still open, should be covered with collodion and cotton. Swabbing of the skin should be done with cotton balls; not rough gauze.

Choice of anesthesia poses some difficult problems. We have generally used cyclopropane or ether by insufflation. Oxygenation must be generous. Local anesthesia is often adequate for some procedures, but in dealing with intestinal obstruction, the infant may complicate the already serious problems. However, it may be useful to augment general anesthesia.

The planning of abdominal incisions in dealing with intra-abdominal lesions in the newborn presents some questions of applied anatomy and mechanics. If exposure to the upper portion of the cavity is desired it is well to have the incision protected by liver. Healing in the premature infant is often a serious problem, and infection of an abdominal parietal wound is often a grave if not fatal complication. Evisceration, if infection or persistent distention occurs, is usually fatal. For reasons of more secure closure and less likelihood of serious separation or evisceration, with as good exposure, generous transverse incisions placed at correct level are usually better. The level should be above the semicircular line in almost all instances. Both recti may be crossed with impunity.

Closure should be with interrupted sutures. Usually nonabsorbable sutures are employed. In the presence of infection, stainless steel wire is preferable to silk or cotton.

More than lip service must be paid to the overworked term, "surgical gentleness," in intra-abdominal manipulation and correction. The instruments common to adult surgery are generally non-applicable. Care must be taken in evisceration of the intestines, doing it only where necessary and for brief periods. Attention to avoid serosal trauma,

mesenteric hematomata and major vessel damage must be more diligent even than practiced in adult surgery. Insofar as possible, all "wet rubber" technic tends to spare serosal trauma.

If great distention is encountered, the first step is to empty the distended gut. If aspiration with use of suction apparatus is not productive, active milking out of material through small incisions should be done without delay. Closure of aspiration holes should be done with fine interrupted sutures placed in the transverse axis of the bowel.

No attempt to perform so-called aseptic anastomoses is feasible. In general, all of the various intestinal clamps should be left in the instrument cupboard. The lumina are small, and turning in crushed borders may enhance risk of subsequent stenosis or leave residual obstruction.

All available means should be employed to keep accurate account of blood loss. Surgeons accustomed to the gory environment of massive surgery in the adult may be oblivious to increments of only 50 ml. Replacement through the indwelling ankle catheter must keep pace with loss.

These measures may lessen to some degree the relatively high death rate observed in this class of surgery. Most important of all is early recognition of difficulty and the institution of skillful corrective procedures after brief vigorous preparation, as so forcefully advocated by Ladd.¹⁷ On these measures and proper understanding of the varied and intricate embryologic mishaps rests some hope of improvement.

REFERENCES

1. Glover, D. M.; and Barry, Frank McA.: Intestinal obstruction in newborn. *Ann Surg.* 130:480-511 (September) 1949.
2. Fisher, H. C.: Duplications of intestinal tract in infants. *Arch. Surg.* 61: 957-974 (November) 1950.
3. Zuelzer, W. W.; and Wilson, J. L.: Functional intestinal obstruction on congenital neurogenic basis in infancy. *Am. J. Dis. Child.* 75:40-64 (January) 1948.
4. Swenson, O.; and Bill, H. H., Jr.: Resection of rectum and rectosigmoid with preservation of sphincter for benign spastic lesions producing megacolon: experimental study. *Surgery*, 24:212-220 (August) 1948.
5. Swenson, O.: New surgical treatment for Hirschsprung's disease. *Surgery*, 28:371-383 (August) 1950.
6. Hiatt, R. B.: Surgical treatment of congenital megacolon. *Ann. Surg.*, 133:321-329 (March) 1951.
7. Wangenstein, O. H.; and Rice, C. O.: Imperforate anus: method of determining surgical approach. *Ann. Surg.*, 92: 77-81 (July) 1930.
8. Mayo, C. W.; and Rice, R. G.: Anorectal anomalies: statistical study of 165 cases with special reference to "distal-loop trouble." *Surgery* 27:485-494 (April) 1950.
9. Gardner, C. E., Jr.: Surgical significance of anomalies of intestinal rotation. *Ann. Surg.*, 131:879-898 (June) 1950.
10. Bisgard, J. D.: Congenital eventration of diaphragm. *J. Thoracic Surg.*, 16:484-491 (October) 1947.
11. State, D.: Surgical correction of congenital eventration of diaphragm in infancy. *Surgery*, 25:461-468 (March) 1949.
12. Butsch, W. L.; and Leahy, L. J.: Technic for surgical treatment of congenital eventration of diaphragm in infancy. *J. Thoracic Surg.*, 20:968-973 (December) 1950.
13. Moore, T. C.; and Shumacker, H. B., Jr.: Intussusception of ileum through persistent omphalomesenteric duct. *Surgery*, 31:278-283 (February) 1952.
14. Landsteiner, K.: Darmverschluss durch eingedicktes meconium. Pankreatitis. *Centralbl. f. Allgem. u. Path. Anat.*, 16:903-907 (November) 1905.
15. Farber, S.: Relation of pancreatic achylia to meconium ileus. *J. Pediatr.*, 24:387-392 (April) 1944.
16. Lee, C. M., Jr.; and MacMillan, B. G.: Rupture of bowel in newborn infant. *Surgery*, 28:48-66 (July) 1950.
17. Ladd, W. E.: Choice of time and type of operation in surgery of early life. *Pennsylvania M. J.*, 46:677-682 (April) 1943.

THE TREATMENT OF PSYCHOGENIC CONSTIPATION IN YOUNG CHILDREN

HUNTER H. COMLY, M.D.
IOWA CITY

THE PROGRESS of medicine, especially since the advent of the miracle drugs, has made time available to the doctor to provide more comprehensive well baby and child care. Sound knowledge of the laws of physical, intellectual, social and emotional growth provides the background for an effective anticipatory guidance program. Such a program promises to be of great importance in preventing the child-parent misunderstandings and estrangements that are found to underlie personality and behavior disturbances.

The physician has discharged these responsibilities to the baby during its first year of life if he has, through his support and guidance, helped the mother establish a good relationship with her baby in the neonatal period and has permitted and encouraged her to be natural, independent, spontaneous and responsive to her baby's inherent rhythms rather than to a rigidly scheduled regimen of care. In these cases the baby is enabled to develop trust in his mother and can face with relative confidence the formidable problems that await him during his next two years.

It is the purpose of this paper to focus upon the specific nature of some of the problems inherent in this period. Erickson has summed up present knowledge by stressing that the central problem for the child at this stage is the development of a sense of autonomy. As Erickson states:

"Much of the child's energy during this time will center around asserting that he is a human being with a mind and will of his own. What is at stake is the sense that he is an independent human being and yet one who is able to use the help and guidance of others in important matters. The favorable outcome is self-control without loss of self-esteem. The unfavorable outcome is doubt and shame. There is the dominant will, there is the insistent 'me do' that defies help and yet is so easily frustrated by the inabilities of hands and feet. As problems of the period, some psychologists have concentrated particularly on bladder and bowel control. To others this is but a prototype of all the problems of this age range."

This is a time when mind and muscles perform unpredictably. The hand grasps at will but relaxes less expertly. There is conflict in the contrasting tendencies of holding on and letting go. Fingers tightly clenched around a knife blade clutch the more firmly if the dangerous object is wrenched away. They relax quickly to accept for further exploitation any object that can be deftly traded, since mental grasp—that is, attention span—is fleeting. Though fleeting, it permits the child to take countless acute and vivid snapshots of his world. His limited experience permits him to build

up only a patchy composite picture of himself, the world and how he fits into the total scene.

So far, the parents have given in to the baby's desires, for the most part. Now he is expected to learn to give in to others. It is important to realize that it makes little difference to the child whether he gives up that which is really his or only that which he feels to be his own because it is within his grasp. As yet, his idea of self as different from not-self is limited. It is during this period that the child defines the boundaries of self and learns to give up his possessions. The experiences of this stage are vital for the formation of attitudes important in social reciprocity. The child will give up his possessions for two basic reasons: because he loves those about him and wants to please them or else because he fears their wrath if he does not comply. In the second instance, the giving is at the expense of autonomy, which implies loss of pride or face and a resulting increase in feelings of doubt and shame. He must and does struggle to maintain or regain his sense of self-mastery.

The child at this time naturally undergoes many experiences which threaten this budding sense of autonomy. As he toddles on his clumsy legs he stumbles, and an unknown force hurls the floor against his face. He rights himself, gets his bearings and tries over and over. He learns to play the nursery game of "Ring Around the Rosie," and to the last phrase of the tune learns to fall down of his own free will. He is triumphant. At last he begins to feel gravity as something within him. He has a predictable measure of control over it. The toddler is put to bed and left alone. His cries to bring the parents immediately are ignored. The next day he strives for mastery over this deflating experience by triumphantly placing his doll in bed and rushing away from it over and over again. He has an injection at the doctor's office. His doll, dog or sibling gets the shot at home. Every pediatrician is familiar with the sudden loss of appetite that may accompany the initiation of bowel training. If pressed too far the child may hold the food in his mouth and refuse to swallow it, for to swallow may mean to lose control. He can no longer see or feel its presence. The pediatrician knows how rapidly normal eating is resumed if the toileting insistence is postponed or relaxed immediately upon the appearance of this distress signal.

What is being described here, and will be further illustrated in the case presentation, is a basic mechanism of emotional growth, a technic employed by the self to heal a psychic wound. In every instance wherein self-control and self-esteem have been assaulted and the child made to endure passively a degrading experience, he repeatedly strives to master the situation by emotionally reliving the experience with himself in the active role. If the experience is an especially overwhelming one, however, or the child's repertoire of skills is inadequate or the tools and opportunity for such release are unavailable, the

emotional expression may remain hidden, forcibly forgotten and be detectible only in fantasy. There are reasons for believing that the recurring battle dreams of soldiers as well as the sudden night crying of infants after a painful medical treatment are examples of this basic mechanism.

We cannot approach an understanding of the problems of emotional growth without further consideration of the fantasies of little children. Mention was made of the fleeting mental grasp and the relatively clumsy integrative powers of the child at this time. This awkwardness in thinking leads rather regularly to the formation of certain morbid fears characteristic of the period. Since these fears and fantasies are the product of irrationality, their expression often leads the adult to resort to ridicule and shaming in an effort to encourage more mature thinking. This approach to the situation, of course, only further threatens the child's self-concept, and he clings to his pet ideas the more firmly—perhaps to nourish and elaborate upon them in secret—and to give them up only at the risk of greater loss to his sense of pride.

It is the task of the experienced psychotherapist to unravel the involved and snarled fantasies of the emotionally disturbed child. But it is the task of the physician interested in anticipatory guidance to familiarize himself with some of the most common distortions in thinking that disturb the growing child, to understand their derivation and expression and to interpret the irrational in a rational light to the adult. Parents are most open-minded and approachable on this subject when they are confronted daily with the proof for the existence and importance of the "queer ideas" of their toddler. By the time he has reached school age his thinking is for the most part adult-like and the parent has forgotten the experiences that contributed to the child's fear of the dark, of getting dirty, of swallowing certain nasty-appearing foods, etc.

The basic thesis suggested here is that the struggles of the child for autonomy come in conflict with and encroach upon the parents' areas of control. The punctilious, meticulous and perfectionistic parent who expects or, by subtle means, demands high standards of performance and expression from the child at this age is more inclined to oblige the child to defensively adopt an unduly tenacious character typically exemplified by unresolved conflicts between holding on and letting go. Speech hesitations are often symptomatic of this conflict. Of course, since the recitations of the child are in a true sense an offering or gift, they may be accepted by the adult with an insistence upon perfection and accurate timing analogous to the perfectionism displayed at the time of toilet training accidents. The conflicts between relaxation and contraction are often rather permanently consolidated or jelled within muscle groups and find symptomatic expression in stuttering, psychomotor tics and habit spasms which are truly defensive armor plating protecting the indi-

vidual's sense of autonomy. Such a person characteristically doubts the value of his own productions, is indecisive, unspontaneous, socially isolated and obsessional, repetitive and compulsive in thought and deed.

Researchers doing psychotherapy with children have gradually evolved some basic tools and skills and a body of knowledge about emotional growth that can to a considerable extent be incorporated into the standard practice of the physician who deals with the young patient and his parents. Although the list is a long one, it is appropriate to name a few of the prominent contributors to this field. Freud² published the first case illustrating the treatment of a neurotic child. His daughter, Anna,³ has carried on his work and enriched our knowledge considerably. David Levy⁴ has elaborated a group of techniques known collectively as "release therapy," designed especially for the treatment of the traumatic neuroses of children. Friedrich Allen⁵ has added to our understanding of relationship therapy.

The following case history is reported because it illustrates many of the concepts and principles referred to in the foregoing material.

A well-read young mother sought help for her three year old son. She explained the reasons for coming by relating this history:

One morning Jimmie passed a hard blood-flecked stool, the blood apparently coming from a small anal fissure. Because he had had a lingering cold, the mother had scheduled an appointment with the family doctor. That afternoon, as the mother got her son ready to go, he became extremely anxious and asked tensely, "Mother, will the doctor put that thing in my 'doo-doo' and make me go up, up, up?"

The mother reassured him about not needing an enema, but his anxious query set her to thinking. Jimmie had had only one experience with enemas in his life. None had been given to any other members of the family. He had not had his temperature taken by rectum for several months and then he had not objected strenuously to the procedure. But one night, when Jimmie was 14 months old, after a bout of diarrhea which was followed by severe colicky abdominal pain, the parents were advised to give him an enema. This they tried but with no relief. The doctor was called again late at night. Quite a struggle ensued between the boy and the three tired adults. He was forcibly held while the doctor gave a large enema. Jimmie was evidently severely frightened, for he didn't sleep at all for 36 hours, although the pain apparently was relieved immediately. Jimmie slept fitfully for a few nights. As no further difficulties were encountered, the episode was not mentioned and was apparently forgotten until the day Jimmie asked the anxious question that recalled the whole experience vividly to the mother's mind.

Jimmie's early development had been rapid and he had had several words in his vocabulary at 14 months. His parents were intellectuals and were

quite proud and a bit exacting of his verbal facility. His mother had done a good deal of reading about child psychology and because of this had endeavored to be exceptionally patient with regard to Jimmie's toilet training; in fact, Jimmie had never had a bowel movement in the toilet. The mother had been determined to wait until he used the toilet of his own accord, in imitation of his elders. She now wondered if his slowness in this matter was in some way related to the experience of 22 months before. To her this possibility seemed borne out by a further observation, that Jimmie always defecated while standing. He usually contrived to be alone when doing so. The mother feared that the experience might have left an indelible scar in Jimmie's personality and she wanted reassurance about this. In this first interview she also indicated that he was wearing diapers and rubber pants at night. She had been reluctant to remove diapers as he was still quite often wet in the morning. He had been in training pants for over a year, rarely wet himself and used the toilet for urination. She was told that sometimes little children construe the wearing of tight fitting pants as a prohibition against touching their genitals. She was advised to dispense with the diapers and get him up to urinate before she retired for the night. This she did. He was dry in the mornings after adopting this plan. Soon she was able to permit him to sleep through the night undisturbed.

Because of the mother's concern, weekly play interviews were scheduled. The first play interview with Jimmie revealed him to be a rather tense, wide-eyed little fellow who was initially reluctant to enter the playroom. He started markedly at the sounds of flushing in the overhead sewer pipes. He eyed the picture of an Indian displayed on the wall with considerable awe. But he soon found himself engrossed in the toys in the sandpile and didn't seem to mind when the mother left the room. His voice was shrill, his features quite rigidly set as he gritted his teeth and scraped up a pile of sand in the sandbox. Later he explored the doll house furniture. Finding a group of marbles strewn on the floor of the doll house he picked them up, put them in a box and drew it close to him. The therapist rolled a few more marbles toward him. He put them in the box and did not offer to roll them back. The doll house toilet was at the side of the table midway between boy and therapist. Jimmie put one marble in the toilet. At the end of the hour he asked the therapist to take off his sandals and dump the sand out. This was his first request of the therapist and the only physical contact between them, as his request was granted.

The second, third and fourth weekly play hours revealed further evidence of his general tenseness. He was quite reserved and methodical. He rarely talked to the therapist except to ask questions. His mouth was often pinched shut and his jaws clenched. He invariably made a big pile of sand by

raking all in the box up toward him and away from the therapist. He carried the box of marbles around with him. When they were spilled he picked them up and accepted those rolled toward him but he was more interested in hoarding them than in reciprocally rolling them back and forth with the therapist. He repeatedly asked for explanation of the noises from the sewer pipes, the clanking steam radiator and the page bell. By the fourth hour these anxious questions were less frequent. In handling members of the doll and puppet family it was noticed that he used the pronouns "he" and "she" indiscriminately, regardless of the sex type of the doll. At the end of each hour he asked the therapist to remove his sandals and shake out the sand.

The behavior in the fifth hour was much the same until after he had completed his hoard of sand. Then a strange request made its appearance. He took off his own shoe, handed it to the therapist, and asked him to fill it with sand and put it back on his foot. To this request the therapist replied, "Sure, you want to keep the sand in your shoe just as you want to keep your doo-doo in your bottom."* Jimmie's response to this interpretation was quite electric. He grew pale, drew back the offered shoe, stood up abruptly and jumped out of the sandbox. He arched his body forward, placed his hands over his behind and ran quickly to the far corner of the room. There he found a peg board with several loose pegs. He hurriedly and tensely put each of them in place, looking furtively over his shoulder at the therapist who remained at the sandbox. This completed, he busied himself with carefully constructing a wall of blocks on the table between himself and the therapist. He gradually grew more calm, put his shoe back on and left the playroom after saying goodbye.

The day he came for his sixth weekly visit he brought the therapist a cookie his mother had just baked. After playing a part of the hour he announced to the therapist that he wanted to see the toilet. It happens that the toilet is next to the steam heat control room for the hospital and during the winter it is quite noisy. Jimmie was a bit frightened, asked to be picked up and held. While this was done he saw all the big pipes through the connecting window. Then he asked to be put down. He explored every corner of the room, looked behind the waste basket, crawled under the partition and, holding the therapist's hand, splashed his hand in the water of the stool with his other hand. He seemed satisfied, did not urinate or defecate and asked to leave.

During the seventh and last weekly hour Jimmie seemed more relaxed and more frequently looked up from his play toward the therapist's face. His comparative relaxation, plus the fact that he did

* [At first the mother had difficulty in accepting the meaning and validity of this interpretation until she recalled that she had occasionally dumped sand from Jimmie's sandals into the toilet at home and flushed it away.]

not make his usual pile of sand, but rather played at the table with the furniture and little cars, led the therapist to feel more free to ask questions. To simple questions he answered fairly readily, until the therapist asked, "Who lives at your house, Jimmie?" To this he replied, "Mommie, Daddy, Bobby (the older brother) and Jimmie." The therapist knew he had a four month old baby sister at home and immediately noticed the omission. As Jimmie finished naming those in his home his voice took on a questioning inflection, he moved quickly over to the doll house, pointed to a half inch hole in the floor of the second story, asked anxiously, "Why is that there?" and immediately plugged it up with a small rubber animal. To this question the therapist replied, "It seems to me you're worried because Margie's 'go-go' isn't like yours. Did you know that her 'go-go' is like Mommie's and yours is like Daddy's? You'll grow up to have a big 'go-go' just like Daddy's and Margie's 'go-go' will always be like Mommie's. Nothing happened to hurt Margie's 'go-go,' and your 'go-go' won't ever be like hers." Jimmie's response to this interpretation was remarkable. He broke into a warm smile, raised his arms to the therapist and with considerable feeling said, "Can I sit in your lap?" This being permitted he sat very relaxed, chatted enthusiastically about his home and friends and looked through a little booklet showing boys and girls at play. He enjoyed pointing out in each picture the boy—"He's got a 'go-go'"—and the girl—"She has long hair, her 'go-go' is like Margie's." He said several times contentedly, "His 'go-go' is like mine." It was noticed in the remaining minutes that he referred to the feminine dolls using the proper pronoun.

The mother indicated that the next afternoon while she was nursing Margie, Jimmie went into the bathroom, undid his trousers, had a stool in the toilet for the first time, flushed it himself and pulled his clothes back on. He has continued to do so, and there was no further trouble with constipation.

DISCUSSION

Jimmie's case history was reported in detail because it illustrates especially well the existence of a generalized attitude, in speech, play, body language and thinking that might be put into words thusly: "I'm afraid to let go because if I do I may lose a part of myself."

The therapeutic sessions, by providing an opportunity for free selection of tools, fostered active mastery of some of Jimmie's conflicts and gave us a chance to see a good example of emotional growth. Jimmie's sense of autonomy was more firmly established. He developed a clearer definition of himself and his relationship to his family and the world, and he grew considerably in his capacity for social reciprocity.

It is not intended that the impression be given that the trauma at 14 months was the cause of Jimmie's problems. On the contrary, it is much

more likely that the parental attitudes were such that they lacked the degree of plasticity and reciprocity necessary to permit Jimmie, unaided, to develop an adequate sense of autonomy. These attitudes were expressed in such ways as placing a high priority on speech production, accents on cleanliness, enforced sharing, etc.

A few comments are in order with regard to the two interpretations made to Jimmie. Observations of his play left little doubt that the marbles and the sand symbolized feces. When the time seemed propitious its meaning was explained to him. This move was, of course, a violation of his privacy and startled him badly. However, he was permitted to recover his equilibrium, and in so doing, he demonstrated his need to "put things in their right places," by plugging up the holes in the peg board. The wall he built was designed to keep the therapist at a respectable distance. The second interpretation was based on the knowledge that fears about injury to the genitals are likely to occur in a boy of this age and are apt to be accentuated when they first begin to notice genital differences. Repeated questions by small children which call attention to things missing or out of place is strong suggestive evidence that anxieties of this sort are troubling them.

To physicians interested in anticipatory guidance some suggestions and opinions referable to the problems of this phase of development may prove helpful.

Problems centering on sphincter control often have their onset during the infant's first year. There is great variability in the individual colon motility rhythms. The breast-fed baby may have only three or four stools a month until solid foods are introduced. Knowledge of this fact will allay much parental anxiety and permit a clearer definition of just what constitutes constipation. In general, one can say that if the stool is passed with relative comfort and obvious signs of satisfaction, regardless of frequency, the child is not truly constipated. There should be little difficulty in distinguishing between infantile constipation due to insufficient amounts of the various dietary constituents and that attending hypothyroidism or congenital megacolon. Although constipation does lead, on occasion, to mild discomfort, by no means does it render the child toxic.

Usually a small oil retention enema ($\frac{1}{2}$ to 1 oz.), administered with a soft rubber ear syringe, is all that is required to soften the stool so it can be passed. Large "cleansing" enemas are rarely indicated during the course of ordinary childhood infections. These should generally be reserved for use in preparation for bowel surgery or diagnostic abdominal x-ray studies. Suppositories may *rarely* be indicated, although the oil enema is much less irritating and will accomplish the same purpose. Suppositories should not be used as a method of initiating bowel training. If simple dietary regulation fails to overcome a constipated tendency, the hydrophylic colloidal preparations are the method

of choice in re-establishing normal bowel motility.

Since toilet training is such an important aspect of the development of social reciprocity, many of the problems of the toddler and his parents can be side-stepped if all training efforts are postponed until the child can walk and talk in sentences and has shown a definite and spontaneous interest in the toilet behavior of his elders. This usually means patiently waiting for 18 months, frequently until the child is well into this third year. During the time the child is learning, quiet appreciation for his efforts should be shown, failures handled calmly and he should be given ample opportunity for messy play with sand, mud, clay, water, finger paints, etc. The "potty chair" causes less anxiety than the seat that rests over the water. The child's own rights are better honored if he is helped to send his stool away by flushing the toilet himself.

The parent should be forewarned to expect regressions and given some clues as to common reasons why a child may suddenly refuse to use the toilet. This is especially apt to occur if anything has happened to increase the child's fears of injury or loss. For example, one little girl attempted active mastery of her problems by placing her kitten on the toilet seat. The kitten fell in and the mother warned her that the kitten might be flushed away and die. Later the mother was puzzled as to why her little girl refused to use the toilet. Family moves, illness, new pets or siblings in the household are common factors leading to lapses of sphincter control.

The child should be given the names for the genitalia so that he has the means with which to talk out his questions and feelings about them.

If during this period the child has had to undergo hospitalization and various traumatic procedures, the parents should be helped to anticipate certain attempts on the part of the child to master these experiences in his play. As he works through the feelings aroused by enemas, rectal temperatures and venipunctures, the child may play doctor or nurse with his playmates. Such play might be misconstrued by the parents or sometimes, of more importance, by the playmates' parents, as early manifestations of a sexual perversion. The parent can help avoid this possibility by encouraging the child to dramatize and talk about his experiences in the warmth of the family circle using dolls rather than siblings or playmates as the victims.

If the child is, insofar as possible, given a choice in conflict situations, threats to his sense of autonomy will be minimized. During this period the physician can help parents realize that "selfishness" is a symptom related to the above-described developmental problems, that true co-operative play should not be expected much before three years of age and that forcing a child to share will not result in the unfolding of a genuine capacity for social reciprocity.

BIBLIOGRAPHY

1. Erickson, E. H.: A Healthy Personality for every Child

—A Digest of Fact Finding Report of Mid-Century White House Conferences on Children and Youth. Raleigh, N. C. Health Publications Institute, 1951.

2. Freud, S.: Analysis of a Phobia in a Five-Year Old Boy, in Collected Papers. 3:149-289, London, Hogarth Press, 1949.

3. Freud, A.: Psychoanalytical Treatment of Children. London, Imago Publishing Co., 1946.

4. Levy, D. M.: Trends in therapy; release therapy. Am. J. Orthopsychiat., 9:713-736, (October) 1939.

5. Allen, F. H.: Psychotherapy with Children. New York, W. W. Norton and Co., 1942.

THE DETECTION AND DIAGNOSIS OF RETARDATION IN CHILDHOOD

HOWARD V. TURNER, M.D.

DES MOINES

WITH THE increasing use of various standardized technics, the retarded or feeble-minded child is being detected with greater frequency. Often the diagnosis is made solely on the basis of these standardized technics. It should be understood that these devices are simple laboratory procedures; and not, in themselves, adequate instruments for the diagnosis of retardation. While they can detect retardation of slight degree, they do not properly provide a differential diagnosis of the etiology of retardation. Diagnosis can be made only by an accurate, experienced clinician.

The etiology of retardation can roughly be classified into three groups: (1) the simple mental deficiency, (2) mental deficiency associated with disease and (3) pseudo-mental deficiency.

SIMPLE MENTAL DEFICIENCY

The mental capacity of individuals in this group is limited by genetic endowment. In a sense, it is determined by the germ plasm. For practical purposes it may be looked upon as hereditary. The intelligence of children is generally correlated with that of their parents: most feeble-minded children have parents with lower range intelligence. There are many instances, however, of parents in the highest ranges of intelligence producing a feeble-minded child. The reverse is also true.

The large majority of such cases shows a mild intellectual retardation in which the intelligence quotient varies from 50 to 70. Children of this type often show no unusual physical features. As adults they become well suited to perform many simple tasks needed by our society. The diagnosis of this type of deficiency should not be made on the testing technic alone. It should include a clinical period of observation in which the child's general behavior and his poor performance in learning can be observed, and in which a history is obtained of slowness in motor and speech development. Great care must be used in distinguishing this group of simple mental deficiency from the pseudo-mental defective.

MENTAL DEFICIENCY ASSOCIATED WITH DISEASE

Numerous organic illnesses and diseases are known to be associated with feeble-mindedness.

These illnesses are environmental as well as hereditary.

Table 1¹

| A. GERM PLASM DEFECTS | |
|--|--|
| Cerebroretinal degenerations: amaurotic family idiocy and others | |
| Niemann-Pick disease | |
| Galactosemia | |
| Phenylpyruvic oligophrenia | |
| Pseudo-hypoparathyroidism. The mental defect is usually mild | |
| Muscle dystrophy | |
| Familial oligoencephaly (Benda) | |
| Nevoid amentia (Parkes Weber-Dimitri disease) | |
| Familial microcephalic idiocy | |
| Macrocephalic idiocy | |
| Tuberous sclerosis | |
| Lawrence-Moon-Biedl syndrome | |
| Degenerative diseases affecting chiefly the white matter: encephalitis periaxialis diffusa of Schilder, Pelizaeus-Merzbacher disease | |
| Heller's disease | |
| Hydrocephalus; may be acquired postnatally | |
| Anencephalus | |
| Gargoylism | |
| Friedreich's ataxia | |
| Congenital atonic diplegia | |
| Ocular hypertelorism | |
| Premature cranial synostosis | |
| Cleidocranial dysostosis | |
| B. ENVIRONMENTAL | |
| 1. PRENATAL | |
| Maternal infections; rubella, toxoplasmosis | |
| X-ray irradiation of mother during pregnancy | |
| Anoxic disease of mother during pregnancy | |
| Mongolism | |
| Cretinism | |
| Pituitary hypogenitalism | |
| 2. NATAL AND POSTNATAL | |
| Iso-immunization, kernicterus | |
| Laceration of brain at or after birth | |
| Anoxic damage to brain at or after birth | |
| Subdural hematoma | |
| Infections: encephalitis, meningitis | |
| Pertussis | |
| Lead poisoning | |
| Hypothyroidism | |
| Hypoglycemia | |

The above, it should be understood, is not a complete list of the etiology of mental deficiency associated with disease.

PSEUDO-MENTAL DEFICIENCY

The greatest diagnostic perplexity exists about this group. Table 2 lists some of the conditions for which children are falsely labeled feeble-minded.

Physicians are frequently misled into making the diagnosis of retardation when the clinical picture is produced by emotional disturbance. Dr. Ralph N. Shapiro, New Jersey, writing in the *Journal of the Medical Society of New Jersey* in 1947, states that every general practitioner, pediatrician or other doctor who has contact with children should weigh seriously the factor of emotional neglect before concluding that the child is retarded. Typically, one finds the child who has lived most of his life in an institution or in some other *physically satisfactory, but emotionally inadequate environment*, to be of abnormal intelligence. The examiner would expect a child who has been fed scientifically, housed well, bathed, kept warm and protected from harm and infection, to develop according to the accepted norm: crawling, sitting, talking and responding to other human beings.

However, by the end of the first year certain unusual features of behavior become conspicuous. The child is likely to present a picture of dullness, apathy and unresponsiveness. When spoken to he stares ahead, looks down or begins to cry. When offered toys he makes no attempt to grasp them or even to notice them. Retarded motor habits include failure to sit up or stand, or even to use the arm and the hand properly.

Rittle, Bender, Levy and others have made extensive observations of children deprived of mother love or otherwise suffering from extreme hunger for affection. They found that such children are depressed to the extent that they reject everyone around them. Next to life itself, the human being requires and hungers for human response and warmth. If he is unable to secure such response he retrogresses. It appears that the love relationship has a dynamic effect on the bodily activity of the infant. It helps to stimulate mental and emotional development as well as physical.

Such observations have been well substantiated by clinical experience at the Des Moines Child Guidance Center. With regularity we find children suspected of intellectual deficiencies can be freed for normal development after emotional conflicts and human relationships have been clarified. Generally it is accomplished when parents expand in understanding and warmth. The author well remembers one 18 month infant who responded to an extreme phobic state on the part of the mother with the development of an equally extreme phobic state. The result, according to testing technics, was a limitation of learning experience to the first few months of life. The mother was gradually encouraged to recover somewhat from her own fearful condition. It was soon obvious that the child had responded to the increased security of his environment. Later tests showed the child's intelligence to be well above average.

It is evident in this area of diagnostics, as in others, that the judgment of an experienced clinician cannot be supplanted by laboratory technology.

BIBLIOGRAPHY

1. Bakwin, H.: Feeble-mindedness and pseudofeeble-mindedness. *J. Pediat.*, 37:271-280 (August) 1950.

MEDICAL MOTION PICTURES OF THE AMA

The Committee on Medical Motion Pictures has announced the publication of a new revised film list which includes 78 medical films not readily available from other sources.

This list will be available for distribution after Dec. 1, 1952. A copy may be obtained by writing the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10, Ill.

MAXILLARY SINUSITIS

GORDON F. HARKNESS, M.D.
DAVENPORT

ONE MUST recognize that practical therapy in private practice involves problems that are foreign to the care of patients in the teaching hospital. The advances of scientific medicine impel the clinician to recognize the great aid he receives from laboratories. They offer better but more expensive medicine. The teaching hospital may employ these aids not only to establish a diagnosis but to eliminate rather remote possibilities. In private practice the clinician is justified in sacrificing the ultimate in scientific medicine in favor of economic costs. He must recognize the economic necessities of his patient.

Dogmatic statements indicate a failure to individualize each patient and to recognize the variables that are encountered.

The maxillary sinus, with rare exceptions, is a single cavity. It is the most accessible of the paranasal sinuses. These factors simplify the therapeutic as well as surgical approach, whether it is intranasal or through an external route. The mucous membranes of the upper respiratory tract are specialized membranes. The lining membranes of the maxillary sinuses, while extensions of the nasal cavities, lack some of this specialization. The normal lining membrane is very thin. Essentially a continuation from the nasal cavity, it has fewer glandular elements and no erectile tissue. The outer layer of the mucosa consists of stratified columnar epithelium. It is generally ciliated, with glandular elements more numerous in the neighborhood of the ostia. At times the thin adherent lining membrane demonstrates a surprising susceptibility to edematous swelling, due either to allergic sensitivity or acute inflammation. The position of the ostia does not favor postural drainage in the erect position.

The function of the paranasal sinuses remains unknown. Proetz deserves great credit for having furnished otolaryngologists with a clearer conception of the functioning of the cilia and of maintenance of the ciliary tract against gravity, in spite of artificial openings to favor postural drainage. The effect of dryness and the necessity of a moist mucous sheen, the effect of some drugs applied locally and the inhibiting action of the exudative pools on the cilia in the antrum form a part of the total picture. The restoration of ciliary activity, whenever possible, should be the prime object of therapeutic and surgical measures on the maxillary antrum.

An incomplete but fairly practical classification of the types of maxillary sinusitis includes:

- Sinusitis—acute
 - acute fulminating
- Sinusitis—subacute
- Sinusitis—latent

Sinusitis—chronic

- hyperplastic
- cystic
- polypoid

Sinusitis—allergic

Sinusitis of dental origin

Acute maxillary sinusitis is often practically self diagnosed. The history of a preceding acute coryza followed by localized tenderness on pressure, a sense of fullness in the cheek on bending forward, the jar of walking, making the patient face conscious, the transference of discomfort to contiguous teeth and the frequent use of the handkerchief to blow a purulent discharge from the nose, form the subjective or self-diagnosing picture. Objectively, the nasal mucous membrane generally shows an inflammatory change. Pus in the middle meatus indicates involvement of the anterior group of sinuses. Transillumination with a unilateral dark antrum by transmitted light is a valuable diagnostic sign but may be misleading if the patient has suffered recurrent attacks.

A blocked ostia and lack of aeration are the predominate causes of pain. In acute sinusitis there is an exfoliation of surface cells and swelling of the sinus membrane. The absence of pus on nasal inspection in no way contraindicates the presence of acute maxillary sinusitis. The location of pain in acute maxillary sinusitis is frequently transferred by the patient to the lower frontal region. Acute maxillary sinusitis can generally be diagnosed by clinical examination. Good adequate medical service should include recognition of economic factors from the patient's standpoint.

The practice of turning to the x-ray film to support a clinical diagnosis in acute sinusitis is often unnecessary as well as economically unjust to the patient. There is no doubt that an increasing number of rhinologists have been leaning toward ultraconservatism in the treatment of acute maxillary sinusitis. Some go so far as to say local treatment is without merit except for the occasional local use of a mild decongestant. They limit their advice to rest in bed, the use of opiates to relieve pain, free intake of fluids and the possible application of heat or cold, with the possible addition of steam inhalations. As the economic status of many patients will not permit such a regimen, the author would take exception to such a general rule.

Because of contiguity of membranes, the maxillary sinus participates in most acute inflammations of the upper respiratory tract without evidence of localizing symptoms. Recovery takes place as the upper respiratory membranes return to normal. Maintenance or re-establishment of the ciliary tract and aeration are the prime goals. Since there are many gradations of acute maxillary sinusitis, the treatment should be individualized for each patient. The nasal examination should first recognize anatomical variables, septal as well as of the

external wall, that may be interfering with drainage and aeration. The local use of drugs that inhibit ciliary activity should be avoided. Ephedrine .5 per cent solution in normal saline is acceptable as a decongestant. Some question the use of cocaine. I find that a solution of no more than 2 per cent, when combined with an acceptable decongestant, causes no ill effects. It undoubtedly adds to the patient's comfort. Because the high sensitivity of the nasal mucous membranes is increased by inflammation, the application of medicaments demands the greatest delicacy and a minimum of attendant trauma. Certainly, tamponade with synthetic silver preparations has lost the dubious popularity it once had. After shrinkage, mild suction with the head held laterally to the opposite side will, at times, bring purulent material into the middle meatus. Its presence serves as a confirmatory diagnostic test and its release therapeutically aids in establishing sinus aeration and drainage. With evident relief, one can afford to follow a conservative course even though rest in bed may not be practical for the patient. If, after 24 hours, the patient's discomfort continues; particularly if it is severe, the author does not believe that ultraconservatism is advisable. If careful inspection of the nasal cavity shows that an inflamed and enlarged middle turbinate and a very prominent bulla are interfering with ostial aeration and drainage, infraction of the middle turbinate toward the midline, and crushing pressure outward against the bulla may facilitate ostial drainage enough to counterbalance the attendant trauma to soft tissues. Following such a procedure, if mild suction does not bring relief, one is confronted with the controversial procedure of lavage. The author can only express his own views, in the face of present diverse opinion.

A stagnant exudate in the maxillary sinus may of itself inhibit or stop ciliary activity. Its presence results in disintegration of polymorphonuclear cells and the release of proteolytic enzymes within the cavity which are free to attack mucous membranes. Regarding the avenue of approach, as well as indications for lavage, rhinologists are divided into two camps. First let it be said that lavage by either route, when the route is free of pus, in no way contraindicates acute maxillary sinusitis. Washings which may appear practically clean will, when cultured, demonstrate active pathogenic organisms. Lavage by either route should never be accomplished by any undue pressure of the solution being injected. The relative position of the ostia and a simple inframeatal puncture are not of real import, since neither are near the low level of the antral cavity. Those who favor lavage through the natural or accessory ostia claim that it can be accomplished in as high as 90 per cent of patients with less danger, trauma and discomfort to the patient. Those who habitually use the inframeatal approach argue that the percentage of successful canalizations through the ostia

is much less, some citing as low as 40 per cent. They also argue that the avoidance of trauma to the ostial opening is paramount, that the canula itself may block the ostium and interfere with the return flow, and that trauma to the soft tissues of the ostium does occur and interferes with sinus aeration and drainage. They are convinced the procedure is not without danger. Granting that some develop a greater skill and dexterity, the author favors a middle of the road course which can be conducted in the office.

If, by the third day, an acute maxillary sinusitis has not shown material improvement, as a result of the modified conservatism outlined, lavage should be instituted to evacuate a possible stagnant exudative pool. Preliminary to the procedure, local anesthesia should be applied to the middle meatus; along the wall of the inferior meatus, from the nasal cavity posterior to the middle turbinate in the neighborhood of the sphenopalatine ganglion and high up to the anterior ethmoidal nerve. Fifteen minutes should be allowed for the anesthetic to become effective. One should be equipped with several canula of varying tip lengths. If, with great delicacy of manipulation and without force, one can slip into an ostial opening and then rotate the end of the tip with an arc movement downward without encountering any resistance, one is justified in irrigating the sinus, but only with a minimum of pressure. If these conditions can not be met, I prefer the inframeatal route.

Since the anesthetization applies to either route, there need be no delay in changing the avenue of approach. Some prefer the straight trocar; others favor the curved trocar with a handle. The author believes the curved trocar with the handle has given him better control, although this may be just a personal preference. When making the inframeatal puncture, one should remember that the wall between the meatus and the antrum thins rapidly as it extends above the nasal floor line. If the trocar meets undue resistance it should be withdrawn and the puncture made at a higher level. Here also, irrigation should be accomplished with a minimum of resistance. The trocar should be sharp and pushed far enough into the cavity so that one can be practically assured that it has penetrated through the swollen edematous membrane and is free in the cavity. Resistance to the outflow of the irrigating fluid means a blocked ostium. This inhibits cavity aeration and ciliary action in maintaining the ciliary tract. In such cases, knowing that an artificial opening will not interfere with the ciliary tract; that aeration is desired for an inflamed membrane, and that the evacuation of a stagnant exudative pool will aid in reducing the swollen membranes about the ostium, I do not hesitate to do a modified window operation with a rasp and biting forceps. Although this conflicts with the opinion of certain writers, I have never seen any complications following this procedure. It has, I believe, been equally satisfactory to the

patient. There are occasional fulminating types of cases in which this procedure may be profitably instituted at an even earlier period. Since it does not violate surgical principles to facilitate drainage and aeration, subsequent lavage as a therapeutic measure is a recognized and acceptable procedure. No hard and fast rules can be established. Although the clinical symptoms of each patient vary, it always should be remembered that too frequent and too prolonged lavage therapy may defeat its own purpose by hindering the membrane in its return to a normal state.

ANTIBIOTIC AND SULFONAMIDE THERAPY

With the advent of sulfonamides and antibiotic therapy, it is to be expected that attempts would be made to combine them in irrigating fluids. Early literature brought forth favorable reports of such work. Later reports have not verified some of the earlier assumptions. History repeats itself, as many of the therapeutic measures first embraced with enthusiasm later fall by the wayside. One has only to reason that the area lining a membrane is too small to absorb enough drug to materially affect blood levels. In addition, the time of application is too short to be effective and the pathogenic organisms, buried in inflamed tissue, are not easily reached by the sulfonamide or antibiotic. This statement is not intended to deprecate the great therapeutic boon that has come with sulfonamide and antibiotic therapy. In acute cases, such therapy should be routine. A full dosage sufficient to raise and maintain blood levels, to assure effective therapeutic results, should be used. Such treatment should be consistently followed for several days. It is a mistake to turn to antibiotics for every minor discomfort. One might create a patient sensitivity, rendering them useless to the patient at some future time when he might have dire need of antibiotic therapy.

It is desirable, of course, to establish the causative organism so one can choose the antibiotic or sulfonamide to which the organism is most vulnerable. The earlier the administration the better the results. The ease and effectiveness of these agents precludes that their administration, in private practice, be withheld until a definite causative agent has been established. To widen the field of activity, combinations of these agents are used. One can safeguard such empiricism by remembering that penicillin and streptomycin tend to augment the effectiveness of each other, while penicillin and aureomycin or chloromycetin tend to nullify the effectiveness of each other. They should not be prescribed at the same time. It is better, at times, to combine penicillin therapy with the sulfonamides. The small dosage of streptomycin used in combination and the short period of administration does not offer any material hazard as far as eighth nerve vulnerability is concerned. As new antibiotics and sulfonamides are developed, these

augmentation or nullification properties should be kept in mind.

Subacute maxillary sinusitis is frequently overlooked. It is more often a matter of local discomfort. A continuation of symptoms following an acute coryza is often the subjective story. Pain may be absent. Postnasal drip is a common complaint. The nasal area will frequently be functioning well. Nasal examination may or may not reveal a purulent discharge. A positive transillumination, if lateralized to the side of greater subjective complaint, is of value. Suction after decongesting the nasal mucosa helps diagnostically and therapeutically.

The greater the probability of a chronic sinus inflammation, the greater becomes the value of roentgen studies. They are useful as well in subacute sinusitis. The establishment of a predominating organism can be of value relative to possible specific therapy. Although it is frequently difficult to determine, the establishment of the predominating organism facilitates specific therapy. The farther we recede from acute inflammatory conditions the less effective is antibiotic and sulfonamide therapy. Antral lavage with normal saline solution may bring forth a stagnant pool of exudate. Several repetitions of lavage may be enough to bring a return to normal. If not, the window operation should be recommended. To reiterate, aeration of the sinus and the re-establishment of ciliary activity is necessary for normal physiologic state of the sinus. The window operation is probably the most helpful procedure, relative to the lining mucosa, when reversible changes are possible.

There is a latent form of maxillary sinusitis which may exist for a prolonged period with few local symptoms, while accompanied by symptoms of general malaise, aches and pains and low grade fever. Any patient exhibiting such a train of general symptoms without an obvious cause should have a careful rhinologic examination. The means for detecting latent sinusitis are much the same as for diagnosing subacute sinusitis, with perhaps more stress on roentgen studies. Generally speaking, it deserves the same conservative treatment.

In chronic maxillary sinusitis, it is important to decide whether or not the lining membrane changes are reversible. Roentgen demonstration of a thickened lining membrane is not of itself an indication for exenteration by radical operation.

True, it is after exenteration that a ciliated membrane may re-form. If aeration can be maintained with fibrosis in a chronically thickened membrane, patients at times will suffer practically no discomfort or deleterious effect on general health. The inframeatal window assures aeration.

ALLERGENIC FACTORS

The factors of allergy must always be considered. They may be the sole cause or they may co-exist with infection. In the latter case, it may not be easy to decide which is the dominating

factor. Good judgment favors a conservative course even though radical surgery eventually becomes necessary. The appearance of the nasal mucous membrane may be misleading. The pale boggy membrane emphasizes the possible allergic factor. However, such a membrane is not always allergic. The reddened nasal membrane may also be allergic. One should first determine if the nasal secretions have an increased eosinophile count and the relative presence of polymorphonuclear cells. An increased eosinophile count emphasizes the probabilities of a predominating allergic cause and warrants the postponement of radical surgery. It does not contraindicate the simple snare removal of obstructive polyps in the nasal cavity. One can run the gamut of skin tests with their false positives and negatives, or institute elimination diets (often hard to supervise in private practice), but one should never forget to sit down with his patient and play detective, as it were, investigating all phases of his daily life: his social and environmental influences, the foods he eats, his exposure to inhalants, the industrial contacts of his job and exposure to fumes and chemicals and whether the condition is perennial or whether he suffers seasonal exacerbations. Such an interrogation may expose the culprit and save the patient the time and money of many laboratory tests. Whenever a probable dominating factor, the allergies deserve thorough investigation before radical surgery is attempted.

In the latent and chronic nonsuppurative types, the gross appearance of antral washings can be misleading. The injection, by puncture, of 2 cc. of sterile water, subsequently withdrawn for staining and culture, may give valuable information. The use of radiopaque oils to aid roentgen studies by means of the displacement method demonstrates the patency of the ostia. However, Proetz has stated it has little advantage over direct injection into the antrum to outline the cavity itself. I prefer the direct injection.

The preceding discussion advocates procedures that can be carried out in the office, important when one considers the high cost of hospitalization today.

It should be recalled that only a thin and often fragile layer of bone separates the maxillary antrum from the roots of the posterior teeth. Small openings from the oral cavity, following extractions, will often heal spontaneously or when aided by topical dressings. This may not take place in larger openings. Prior to the definite establishment of sinusitis, when the fistulous tract may transmit infective agents, relaxing incisions may be indicated. These are made above the gingival margin on the buccal and oral side of the tooth socket which, as it undermines them, relaxes the margins of the socket. Next, the freshened edges are drawn tightly together by sutures.

RELATION OF DENTAL PATHOLOGY

The anatomical arrangement of the teeth and the maxillary sinus offers many opportunities for the transfer of dental pathology, directly as well as through the lymphatic and vascular channels. Ordinarily it is only the sinus mucous membrane that becomes involved, but serious complications such as osteomyelitis, orbital abscess, cavernous sinus thrombosis and even brain involvement are remote possibilities. It follows that denistry has a definite part in preventing sinus disease of dental origin. It is well known that the mucous membranes of the mouth tolerate organisms of low grade virulency. When these organisms make direct contact with the sinus mucous membrane they encounter a membrane of less resistance or, in their new habitat, develop an increased virulency. Likewise, apical abscesses may remain dormant for a long time without involving the sinus until after extraction. Effort should be made to close the avenue of approach by medical and surgical means before definite pathology is established in the maxillary sinus.

Similar reasoning applies to the dental mishap of a root tip in the maxillary sinus. Roentgen studies will reveal the root tip but will not always establish whether it is free in the cavity or lying under the lining membrane. Opinions differ as to whether it should be undisturbed until sinus symptoms develop or whether immediate removal measures should be attempted. Waiting for trouble to develop may result in a well established sinusitis of greater or less chronicity. Attempted removal, with the attending traumatization through manipulation and enlarging the alveolar tract left by the extracted tooth, has little justification. Likewise, an opening into the antrum above the alveolar process simply provides another direct pathway of infection from the oral cavity. The nasal window operation removes this possible complication and affords direct access to the antrum through which the tooth root may be removed by irrigation. If this is not successful, one can pack the antrum with a strip of gauze and extract immediately. The tooth root may be held to the lining membrane by membranous tags. These tags will resist the efforts of irrigation but may not resist the pull of the gauze once the root tip becomes enmeshed in it. As a mechanical advantage in the procedure, start the insertion of the gauze eight or ten inches from the end and carry it down to the furthest depths of the cavity, keeping the short end of the gauze outside the vestibule of the nose. After the antrum has been packed, the gauze should be extracted by pulling on the short extruding end so traction will be applied first to the gauze in the deepest part of the cavity. One can, by applicator pressure, prevent the rest of the gauze from coming out first. In effect, the gauze will more or less revolve within the cavity, increasing the chance that the root tip will become enmeshed in the gauze.

Radical antrum surgery demands that due con-

sideration be given to dental pathology and the extraction of teeth that might act as foci of infection, before major surgery. Cysts of the antrum are more often of dental origin. Cysts and polyps can arise in the sinus lining membrane, due to the blocking of a gland or excessive fluid in the stroma. Secondary sinusitis so often accompanies their presence that a brief word regarding them can be said. The radicular cyst may come from an exposed root in the antrum. The dentigerous cyst may come from a degeneration of the cells of the enamel of an unerupted tooth, and the adamantinoma or multilocular cyst from dental epithelium. The rare dermoid cyst is, of course, a congenital anomaly from misplaced cells during embryonic life.

Polyps and cysts can be easily misdiagnosed. Roentgen studies with radiopaque material is often an essential preliminary.

The allergic factor always demands preliminary investigation. If positively established, allergic therapy deserves a trial, for filling defects that would seem to demand radical surgery may entirely disappear with such therapy. Cysts and polyps demand complete removal with a Caldwell-Luc operation if these precautions have been observed.

Chronic hyperplastic thickening of the lining membrane deserves consideration of dental pathology and a window operation before radical surgery is attempted.

Chronic persistent hyperplastic infective sinusitis in the presence of a persistent alveolar fistula demands attention to the sinus pathology, first with conservative measures; later through radical operation, before attempting plastic closure of the fistulous opening to insure better healing of the plastic flap.

A chronic thickened membrane, however, is not always irreversible. Here again, with the window operation to supply aeration and facilitate drainage, the condition of the sinus may improve to a point of clinical recovery. If the window is not successful then the radical operation is indicated.

Hyperplastic tissue lining the antrum which resists conservative methods leaves no alternative but the radical operation. It has been demonstrated that ciliated epithelium will form after the removal of a thickened hyperplastic irreversible lining membrane. No attempt will be made here to give a detailed description of the technic of the radical (Caldwell-Luc) operation. It would be a repetition of descriptions in various surgical texts. However, most descriptions of the surgical technic fail to stress that the initial incision should be made just above the upper border of the alveolar process through the periosteum and that the beginning elevation of the periosteum and soft tissues should be at this site. The postoperative swelling will be much less than when made at a

higher level where soft tissues would have to be cut.

For a time, tonsils and adenoids were widely believed to be the causative factors of chronic maxillary sinus. Tonsillo-adenectomies were performed by men of good reputation when the history of pathology from this source was quite meager. Time and careful analysis of results has proven that the operation was of no real benefit. Certainly chronic maxillary sinus disease in itself is no indication for a tonsillo-adenectomy. Recognition of the allergic factor has also helped to disprove the belief that tonsillo-adenectomies relieved sinusitis. Today, the literature often states that tonsillo-adenectomies are of practically no value in treating chronic maxillary sinusitis. The author disagrees with this view. Treatment of children does not differ radically from adult therapy. An antrostomy, or better, a modified window, has much to offer. If the tonsils and adenoids warrant removal, it is logical and in accord with surgical principles to take them out the same time that a modified window operation is performed. In so doing one saves the patient extra hospital expense.

Lavage in children is more difficult, particularly when necessity demands its repetition, than in the adult. A large trocar opening sufficient to introduce a self-retaining drainage tube with the proximal end tucked into the upper part of the vestibule offers a practical means of facilitating aeration and repeated lavages.

Conclusions on procedure in maxillary sinus disease should always be preceded by careful inquiry as to the patient's general health, diet, general hygiene and the incidence of constitutional diseases.

SUMMARY

One may say that the object of maxillary sinusitis treatment should be to provide proper aeration and to maintain or promote ciliary activity. Radical surgery should be reserved until more conservative measures have demonstrated their inability to succeed or unless there is no doubt from the beginning that conservative measures will fail.

Local application in the nasal cavity or instillations into the maxillary sinus of antiseptic solution and synthetic preparations have a limited value. They have failed to meet the expectations of some of the earlier proponents. A first requisite for medicaments, shrinking agents and local anesthetics should be the known lack of antagonism to ciliary activity. The antibiotics and sulfonamides have a definite place in acute conditions, whether given orally or parenterally. The more chronic the condition the less effect they have. The maxillary sinus needs air and ciliary activity to function physiologically. The rhinologist's role in the presence of inflammation is to relieve pain and to aid the lining membrane in regaining its normal physiologic state. Whether attempted medically, mechanically or surgically, it must be done with

a minimum of tissue destruction. Aeration and ciliary activity are the prime requisites of a healthy maxillary sinus.

A VOLUNTARY HEALTH AGENCY

ROME A. BETTS

EXECUTIVE DIRECTOR,

AMERICAN HEART ASSOCIATION, INC.

NEW YORK, N. Y.

WHAT IS A voluntary health agency? Do all physicians have a clear understanding of its nature? I'd like to risk a definition of what I believe a heart association should ideally be. In so doing, I hope that my readers will be drawn to a sympathetic interest and come to a clearer realization of their own stake in the Heart Association's success, as active participants in its program.

Most of our printed material and news releases describe the Heart Association as a voluntary health agency. Let us examine the meanings of those three words as they apply particularly to us.

Mr. Webster defines voluntary as "Proceeding from the will or from one's own choice, unconstrained by interference; self-impelled, freely given or done."

Although there are different shades of meaning in these phrases, added together they convey some idea of the richness of concept behind the simple word, *voluntary*.

"*Proceeding from the will, or from one's own choice.*" This suggests that no one compels us to do what we do as a heart association. Some person or group of persons (usually physicians are involved at the very start) begins to think that he has a cause worth furthering. So, whether stimulated by suggestion from without or in response to a local condition which warrants attention, someone proceeds to do something about it of his own choice.

In our case, certainly, that awareness was bound to come sooner or later through a close look at the mortality figures. Since this is America and not Russia, many "someones" of their own choice have done something about it. Almost without exception physicians have taken leadership in the organization of heart associations.

"*Unconstrained by interference.*" To people living in a police state those must seem like strange words with an incomprehensible meaning; at best they would be regarded with wistfulness and longing. Perhaps in our preoccupation with establishing an organization we tend to accept them too lightly. Certainly no official governmental agency has the freedom from interference which we enjoy. No congress, legislature or council limits us in the areas within which we choose to operate, the methods we select to achieve our goals or the amounts of money we believe we require to do our job most effectively. "Unconstrained by interference," we can pioneer, improvise and give rein

to our creative impulses in a way which is denied to departments of government. In such a process we look to the physician as the quarterback of the team, calling the signals and leading in the determination of strategy.

"*Self-impelled.*" If we do anything at all about the problem of heart disease, it is because we ourselves will it so. Unless there are people across the country willing to band themselves together for the purpose of coming actively to grips with this great challenge to our well being, we must either resign ourselves to watch disability from the cardiovascular diseases in the productive years of life go steadily upward or stand aside and let government do it all for us. Either alternative is contrary to what we believe is best in our American tradition. Indeed, we have reason to be proud that we are identified with an important segment of our society, the voluntary association. If not unique in this country, it has certainly reached a prominence here unequalled anywhere else on earth.

It would be unfortunate for America if its voluntary associations should suddenly decide to abandon the effort required to make such agencies function and turn this whole field of activity and concern over to government, no matter how benevolent.

"*Freely given or done.*" This phrase implies that we do what we do because we like it, because we are enthusiastic about it and think it is important. This is the opposite of taking action grudgingly or acting simply out of an overdeveloped sense of duty. This phrase includes the idea of generosity as well. In our meeting and planning together, there must always be a spirit of give and take, of willingness to accommodate our views to those of others for the benefit of the Association. There must also be the same generosity of spirit toward those whom we would serve. There is need to develop an attitude of planning and working *with* people rather than *for* people. Fraternalism, rather than paternalism, should be our motivating force. Acceptance of such a philosophy involves use on our councils of representatives of the various related fields: physicians, patients, nurses, businessmen, working men and the general public. Our Association is built on the concept of teamwork. Because we are concerned with a medical problem the physician is the keystone of our organization. We strive to include physicians playing an active role in their community on every committee.

Returning again to Webster's definitions, health is a "state of being hale or sound in body, mind or soul; especially freedom from physical disease or pain."

Those words contain the goal toward which all our effort is directed. It is interesting to note the essential similarity between the Webster definition and the new and improved statement contained in the constitution of the World Health Organization, which reads: "Health is the state

of complete physical, mental and social well being, not merely the absence of disease or infirmity." One of the finest things we can desire for anyone is soundness of body, mind and soul. Nothing so evokes our human pity as the sight of men, women and children afflicted by grievous and crippling illness.

You need not be reminded of the magnitude of our problem; of the number of the cardiovascular diseases, of people who succumb to them each year, of the numbers whose remaining years will be restricted in varying degrees because of them. The mystery and ignorance of basic causes still surrounds the most prevalent and damaging forms.

In seeking this goal of soundness of body, we are using the best weapons we can fashion. The first and most important weapon is, of course, research. Through research alone will we come to know the causes of the ills for which we seek remedies. It alone can furnish the knowledge needed to permit cardiac patients to make the fullest and best use of their remaining physical resources. The American Heart Association, through its scientific council, has taken leadership in supporting research projects and, more important, research brains. As the parent body, it establishes standards and criteria, develops policies for the guidance of all its affiliates and serves as a clearing house of information for the entire heart program.

We must continue to sharpen our weapon of education and wield it more purposefully. Beyond doubt we can make wider use of the knowledge which already exists and become more resourceful in finding and adapting ways of bringing it to the many kinds of people who will benefit from it.

We need to develop new methods and improve old ones through which our expanding knowledge may be applied. It must be the constant study, especially of physician members, to devise ways by which we can extend our services to patients beyond the limits of actual treatment of the diseases. We can help people with cardiovascular diseases to adjust with greater understanding to their condition and help them to cooperate more fully with their own doctors.

A final word from Webster, who defines agency as, "An establishment for executing business in behalf of others." I do not suppose Webster had groups like ours specifically in mind when he wrote it. Nevertheless, he could not have done better had he purposely limited his consideration to such associations.

Above all, the American Heart Association should be an establishment for executing business in behalf of others. We have tried to describe the nature of our particular business by analyzing the words, voluntary and health. Inevitably it is necessary to indicate that our object is to work with people in behalf of people.

However dim the lineaments now may be, it is our goal and our prayer that we produce a

bright and vivid reality through the months and years that lie ahead. You, the physician, can bring that about more than any other person in the community.

State University of Iowa
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

October 22, 1952

SUMMARY OF CLINICAL RECORD

A 56 YEAR OLD white man was admitted to Medical Service complaining of five years of asthma and nervousness. Except for periodic symptoms of duodenal ulcer, he was in fairly good health prior to the five years before admission, when he began to have attacks of acute dyspnea and respiratory wheezing. There was no unusual shortness of breath between acute attacks during the early stages of the illness. Acute attacks seemed to be precipitated by exertion, exposure to dust and by nervousness, particularly. They seemed to be more frequent during the summer months. There were no known allergies and there was no history of urticaria. However, generalized pruritis, unassociated with rash or jaundice, was noted with some of the attacks.

Dyspnea and shortness of breath increased for three years before admission. The exercise tolerance decreased gradually, and orthopnea became a constant symptom. Acute attacks of wheezing, precipitated by a slight emotional upset, increased.

A productive cough had been present in varying degrees since the onset of respiratory symptoms. The sputum was usually white and clear and was never purulent or bloody. There was no history of chills or fever. Previous treatment consisted of epinephrine, various nebulizer preparations and aminophylline suppositories, as well as phenobarbital.

The respiratory illness had prevented the patient from engaging in any gainful occupation for two years before admission. For many years before that the patient had been a county road inspector and foreman of a county road maintenance crew. The home situation was complicated by the presence of an unruly son who constantly piled up gambling debts, wrecked automobiles, and in general, made life miserable for the patient and his wife. The final attack of acute respiratory difficulty occurred two weeks before admission, when the patient had to forfeit the remainder of his financial reserve to pay the son's gambling debts. The patient was a hard-driving, strict, fussy sort of individual; easily angered or otherwise emotionally upset all his life.

There was a 30 year history of duodenal ulcer symptoms with perforation in 1940 and 1947. In 1948 he had a subtotal gastrectomy and gastroenterostomy, with subsequent relief from symp-

toms. A right inguinal hernia was repaired in 1935. He was severely ill with pneumonia in 1918.

Physical examination on admission showed the patient to be thin, anxious and restless. Blood pressure was 130/80 mm. Hg. The pulse was 100 beats per minute. Respiration was labored and rapid. There was cyanosis of the lips and nail beds. The anteroposterior diameter of the chest was increased. The diaphragm was low and the costal margins moved inward on respiration. The chest was hyperresonant to percussion. Scattered coarse rhonchi throughout the chest cleared on coughing. There were fine moist rales in the right base posteriorly. The neck veins were not distended. The heart sounds were quite distant and the heart was not thought to be enlarged; however, there was a prominent impulse in the epigastrium. There were many abdominal scars and a large muscular defect in the upper abdomen. The prostate was moderately enlarged but not nodular.

The hemoglobin was 18 Gms. per 100 ml. The red blood count was 5.48 million per cu. mm. The white blood count was 9,000 per cu. mm. The differential white count showed 63 per cent segmented polys, 7 per cent eosinophils, and 30 per cent lymphocytes. The specific gravity of the urine was 1.020, the reaction was acid. There was no albumin or blood. There was a trace of sugar in the urine. The microscopic examination was negative. Serologic tests for syphilis were negative. The blood urea nitrogen was 16 mg. per 100 ml.; creatinine was 1.4 mg. per 100 ml. and CO_2 combining power was 83 volumes per cent on one occasion and later 93 volumes per cent. The blood chlorides were 500 Gm. per 100 ml. and the blood pH was 7.18. The chest film on admission showed pulmonary emphysema and the left costophrenic angle was obliterated. The heart was small and of normal contour. The electrocardiogram was essentially normal. *Pneumococci*, *Hemophilus influenzae*, and beta streptococci were cultured from the sputum on several occasions. None of these were present in large amounts. The sputum was never purulent in appearance. Usually it was white and frothy.

His course in the hospital was progressively downhill, with increasing cyanosis and respiratory difficulty. He was restless, irritable, and complaining all the time. He slept poorly and often refused to eat. He received nasal oxygen most of the time and became panic-stricken if attempts were made to discontinue it. Aminophylline, epinephrine, antibiotics and abdominal binders were all tried with little benefit. Bronchopneumonia was present in the left lower lobe throughout most of the hospital course. It did not improve to any degree with penicillin. He was thought to be depressed, but treatment with sodium amytal and benzedrine was of no help. The final days were marked by episodes of severe cyanosis and disorientation, rapidly progressive weakness and inability to cough. The rectal temperature was elevated to 101 F. Death occurred on the one hundredth hospital day.

SUMMARY OF NECROPSY FINDINGS

There was severe pulmonary emphysema, associated with diffuse fibrosis. The left pleural space was almost entirely obliterated by fibrous adhesions. Both lungs were involved by chronic and acute pneumonitis, with lobular necrotizing pneumonia affecting especially the left lower lobe. Aspirated gastric contents were demonstrated in trachea and bronchi, including some in areas of necrotizing pneumonia. There was a mild myocardial fibrosis, with moderate hypertrophy and dilatation of the right side of the heart. The gastrojejunostomy was patent and free of ulceration. There was weakness and protrusion of the abdominal wall at the site of the epigastric operative scar, without definite herniation of abdominal viscera.

Death resulted from pneumonia superimposed on severe emphysema. The exact pathogenesis of the emphysema was not evident, but was associated with extensive pulmonary fibrosis and chronic pneumonitis.

NECROPSY DIAGNOSES

Pulmonary emphysema, severe.

Chronic pneumonitis, with pulmonary fibrosis.

Lobular pneumonia, necrotizing.

Chronic adhesive pleuritis, left.

Myocardial fibrosis, mild.

Cardiac hypertrophy and dilatation, moderately severe, right atrium and ventricle.

Gastrojejunostomy, old, with subtotal gastric resection.

Sigmoid diverticula.

Arteriosclerosis, generalized and moderately severe.

CLINICAL DISCUSSION

Dr. Raymond F. Sheets, Internal Medicine: The case which we are discussing today illustrates a disease that is fairly common—one to which most of us give very little thought. Dr. DeGowin will open the discussion.

Dr. Elmer L. DeGowin, Internal Medicine: As Dr. Sheets has said, this brings up a lot of problems in diagnosis and treatment which are commonly encountered in medicine and yet which sometimes are rather poorly handled and sometimes are frustrating to both the patient and his physician.

This man was 56 years old when he was admitted. He gave a history of asthma and nervousness for five years. Now I might pause and say something about the history of asthma. A great many patients are not seen by a physician during the attacks of asthma for many years, or during the attacks of any other paroxysmal disorder, such as paroxysmal tachycardia. Therefore, the patient who gives a history of paroxysmal breathlessness is likely to be allowed to make his own diagnosis. Asthma is probably the most common cause of paroxysmal breathlessness. There are other conditions to be considered—certain types of heart

disease with paroxysmal nocturnal dyspnea or breathlessness from attacks of paroxysmal tachycardia. I recall an error I made in one patient from whose history I could get a perfectly good story of asthma. But the home physician observed him during an attack and found out that these were episodes of hysterical hyperventilation. It is important to make an objective diagnosis of asthma and not take the patient's word for it if it can be avoided.

Among other things, the patient's attacks of breathlessness were precipitated by exertion, exposure to dust and particularly, by nervousness. There was a time, 30 or 40 years ago, when it was a medical fashion to attribute all asthma to psychoneurotic factors. There is no question that asthmatic reactions can be precipitated by emotional upsets, but I think we should look at this very broadly. Asthma is a complex disease and one should not ride one hobby to the exclusion of others. The occasional attacks of the patient who has primarily an allergic type of asthma might be produced by emotional upset. I think most of us no longer believe that asthma is merely a form of neurosis.

There is a statement in the history about no known allergy. One would not expect asthma on an allergic basis beginning so late in life as 45 years. Only three years before admission he had shortness of breath on exertion and that should suggest that he probably was getting complications in his lungs from the breathlessness, from whatever cause.

We would suppose that he was developing pulmonary emphysema, and therefore that no amount of therapy directed at his asthmatic attacks would give him a new pair of lungs. He would have some residual damage from these previous attacks. Also, it is imperative that one should check the asthmatic attacks so that the amount of emphysema will not be further increased.

It was also mentioned that he had a productive cough. If we grant that he had asthma and perhaps pulmonary emphysema, a chronic cough with some expectoration is a frequent accompaniment, but the possibility of bronchiectasis should also be considered. Usually, however, there is merely a chronic bronchitis which tends to continue the asthma.

The fact is mentioned that the attack which brought the patient to the hospital was precipitated by financial embarrassment caused by his son. It was noted that the patient was a hard driving, strict, fussy sort of an individual. This suggests that he was precise about his habits and everything he did. This is just the sort of individual, psychiatrists tell us, who is most likely to develop a depression. One would certainly have to think here of a depression superimposed on the asthma and pulmonary emphysema. I find it very hard to look at the patient as a whole, in spite of the general emphasis on this subject. Most of us

are inclined to think of diagnoses in terms of one or another, rather than one plus the other; yet depressions frequently occur in combination with organic disease. It is important to recognize when the patient has a depression, even when he has

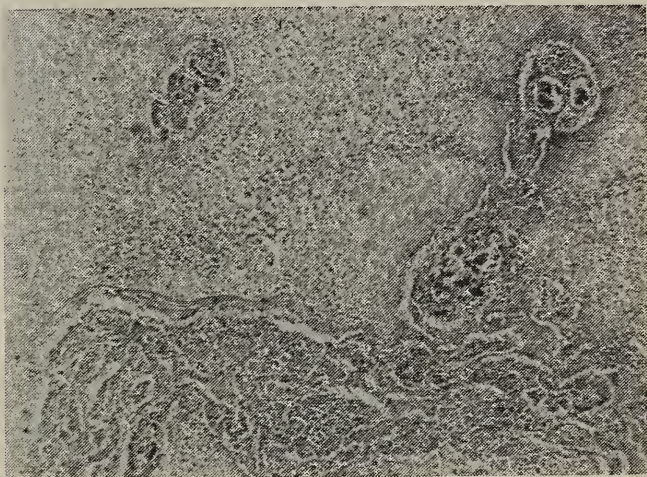


Figure 1. Emphysema, with mild peri-bronchial inflammation.

organic disease in addition, because both conditions have to be treated in order to make the patient well.

The patient had the classical physical signs of pulmonary emphysema, although the description of the signs of asthma was not particularly good. I do not know whether or not these signs were noted during an attack of shortness of breath. One other finding of some significance is that the blood cell counts suggest a degree of polycythemia. You are acquainted with the fact that patients with pulmonary emphysema of severe degree tend to develop polycythemia. Frequently the breathlessness which the patient has may be ascribed to a combination of factors. He may be short of breath because of actual impairment of the mechanics of respiration. The compensatory polycythemia, with its resultant increase in the number of red cells per unit volume, causes such a viscid blood that it is driven through circulation with difficulty. The added load on the heart may cause cardiac failure. Recognition of this situation is important because it is relatively easy to correct by phlebotomy, enough to give the patient temporary relief.

This man had most of the therapy usually directed at asthma and pulmonary emphysema. His condition, however, was progressively downhill. He received sodium amytal and benzedrine, apparently for the depression. The fact that he did not improve, however, does not rule out the possibility of a depression. Dr. Gottlieb told me that you can expect amelioration with these drugs in about 20 per cent of the patients. The patient finally presented the symptoms of extreme air hunger and died.

The x-ray film of the chest taken in 1948 shows increased aeration of the lung field, typical of pulmonary emphysema. At the left base there is

evidence of a slight amount of pleuritis. The heart is normal in size and contour. The several films taken in 1952 show evidence of an increased amount of pulmonary emphysema, but scattered throughout there are shadows which are inter-

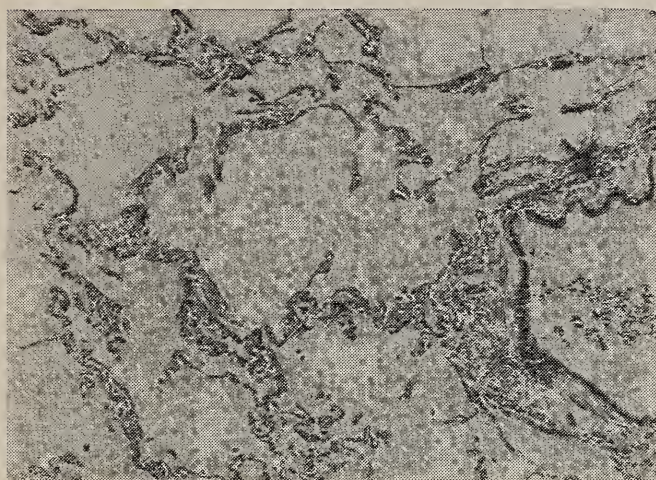


Figure 2. Necrotizing pneumonia involving lung tissue distorted by emphysema and chronic pneumonitis.

preted as fibrotic changes in the lung. The bronchovascular markings are pronounced and there is spotting in both bases which is interpreted as evidence of bronchopneumonia. In addition the pleuritis in the left base has progressed to a marked degree in four years' time.

Dr. Sheets: The clinical diagnosis from the chart was essentially the same as Dr. DeGowin gave. I think it would be rather difficult at this time to put them into an orderly sequence. Dr. Stamler will discuss the anatomic factors.

Dr. Frederick W. Stamler, Pathology: The necropsy findings relating to this man's principal disease were those of pulmonary emphysema of a rather advanced degree with superimposed extensive pulmonary fibrosis and chronic pneumonitis, with severe necrotizing lobular pneumonia as the terminal event. There was also, as indicated by the x-ray film shown, an adhesive chronic pleuritis obliterating the left pleural space. Other findings were of no particular importance. There was a mild myocardial fibrosis and cardiac hypertrophy which involved the right side of the heart but it was not of a severe degree. An old gastrojejunostomy was in good repair, and there were numerous diverticula of the sigmoid colon. Generalized arteriosclerosis of a rather severe degree was present.

The necropsy findings in this case are rather easily summarized. An interpretation of the findings is a little dubious on anatomic grounds. Probably the clinical history is of more significance in interpretation. Certainly the typical changes of allergic bronchial asthma are not present anatomically in this case. There is severe emphysema, but it is largely obscured by inflammatory changes of chronic and acute nature, so that you might possibly say that the emphysema came first, was complicated by bronchitis and

chronic pneumonitis, and the final episode was an acute pneumonic one.

Dr. Sheets: Dr. Seebohm, would you like to discuss this further?

Dr. Paul M. Seebohm, Internal Medicine: Clinically it is often a problem to determine whether the emphysema is of a primary origin or whether the few wheezes that one hears in the chest represent a primary bronchiolar lesion, in a patient of 55 with a barrel chest, a cough and shortness of breath. From the sections that were just shown of the patient with bronchial asthma, one would conclude that the emphysema seemed to follow the disease of the bronchioles. Whether or not that occurred in the patient we are discussing today brings up the crucial question: what is the fundamental basic etiology of hypertrophic or obstructive emphysema? We do know that there is considerable loss of elasticity of the lung. There are a number of theories as to why the elasticity was destroyed. Chronic bronchiolar obstruction is one of these, but the pathological sections revealed little change in the bronchioles. Therefore, it did not seem proportionate that he should develop this degree of emphysema from the small amount of clinical and pathological bronchiolar obstruction he seemed to have.

Another theory is that the chronic cough gradually traumatizes the elasticity of the lung to such an extent that it is destroyed. This concept is believed to be most generally accepted. I do not have another to supplant it, at the moment.

On the other hand, it is our impression that some of our patients appear to have emphysema at a relatively early age without any history of cough or asthma. Upon examination, you find a patient who has run out of lung, is hyperpneic at rest and has insufficient aerating surface with no history or physical signs to suggest a bronchiolar disease existing prior to the development of emphysema.

Whatever the etiology of hypertrophic emphysema, it seems to be somewhat different from the etiology of intrinsic bronchial asthma, which develops at about the same age. Clinically there are a few standards that one can use to help decide which of the two conditions he is dealing with when he sees a patient in the terminal stage. I'd like to review several of these with you.

Both patients reveal a history of dyspnea. I will use the term *asthmatic* here to refer to the intrinsic asthmatic and *emphysema* to refer to our other group. The asthmatic patient will have a history of paroxysmal bouts of dyspnea, possibly first noted at night. He will ordinarily say that he is quite well between attacks. There will be no complaints of exertional respiratory embarrassment unless he has an attack at the time he is trying to exert.

On the other hand, the emphysematous patient's first complaint, as was the case in the patient under discussion, will be exertional dyspnea and usually, at first, no trouble at night. He is happy

to get in bed and can usually sleep throughout the night, but later, as he develops bronchitis and subsequently, as he develops anoxemia, he may be quite restless and disturbed at night. Both patients are likely to have cough, although some patients with emphysema do not have a cough. The patient today had a history of cough, which a good many of our intrinsic asthmatics also claim. When cough is present there is usually sputum which will tend to be white or mucoid in both cases. The asthmatic patient will give a history of other respiratory membrane disease, disorders in the nose, particularly in the sinuses, whereas the emphysematous patient is less likely to have involvement in either the nose or sinuses.

Mental confusion is rather uncommon in the asthmatic patient, although in its terminal state he may be confused. However, the emphysematous patient who is hyperpneic and chronically anoxic may have persistent nocturnal disorientation for weeks before the terminal stage.

A history of other allergic disorders in the family is more likely to exist in the asthmatic patient than in the emphysematous one. Physical examination usually reveals some evidence of nasal or sinus disease in the asthmatic and not in the emphysematous patient.

The chest examination by inspection may be similar in both asthma and emphysema. An increase in the AP diameter may be quite evident in both. One must be careful not to try and estimate the degree of pulmonary dysfunction from this physical sign. There is no relationship. The barrel chest may have almost normal functioning lungs within it.

In the asthmatic, sibilant rales and sonorous rhonchi are pronounced when dyspnea and hyperpnea are severe. In emphysema there is likely to be a dissociation between these findings. The patient discussed today had severe hyperpnea with only a few scattered sounds in the chest indicative of bronchiolar obstruction when I examined him on the ward. Admittedly, this is a variable finding in the emphysematous patient, depending upon the degree of bronchitis. Frequent examinations are often necessary to establish the dissociation of hyperpnea and wheezes in such cases.

The laboratory will sometimes help differentiate the two. We placed a great deal of emphasis on the presence of eosinophils in the blood, tissues, or the secretions. That sign does not help us very much today because this man was reported to have a 7 per cent eosinophilia on one determination. Polycythemia is very unlikely to be present in the average patient with bronchial asthma, but it is not too uncommon a finding in the terminal stage of a patient with hypertrophic emphysema.

There is also a difference in the response to treatment. Antispasmodic drugs in the asthmatic patient, although they do not completely solve his respiratory difficulties, frequently relieve the shortness of breath and in the degree of hyperpnea. In the emphysematous patient, however,

there may only be a mild effect. There is often a bronchospastic element which responds to adrenalin and aminophylline. This man did not respond to the symptomatic treatment. He obtained some slight relief but required oxygen the entire time he was in the hospital. That would be uncommon in my experience with a patient who is that severely ill with just bronchial asthma.

We have another aid that will remove the bronchiolar component. Patients with intrinsic bronchial asthma are likely to respond to ACTH. The bronchiolar component becomes arrested and it is then possible to estimate the amount of pulmonary dysfunction resulting from the remaining emphysematous change. That hormone was not used in this man because we did not feel that his bronchiolar component was the important one and also because we had some other evidences of infection.

If there has been improvement following the treatment of these two conditions, there usually are differences in their degree of recovery. The emphysematous patient will still be well aware of exertional dyspnea and often manifest hyperpnea at rest. The asthmatic, on the other hand, will be quite free of respiratory embarrassment when performing ordinary ambulatory activity even though his chest may outwardly show the same degree of deformity as his emphysematous brother.

The pulmonary physiologists have studied emphysema and found there is no correlation between the degree of functional impairment and the histopathological estimate of the severity of the emphysematous change. Further, methods used do not differentiate between dysfunction from emphysema and emphysema plus bronchiolar obstruction, except where it is possible to correct the bronchiolar component, after which simple subtraction will allocate the pathology to the bronchioles and alveoli.

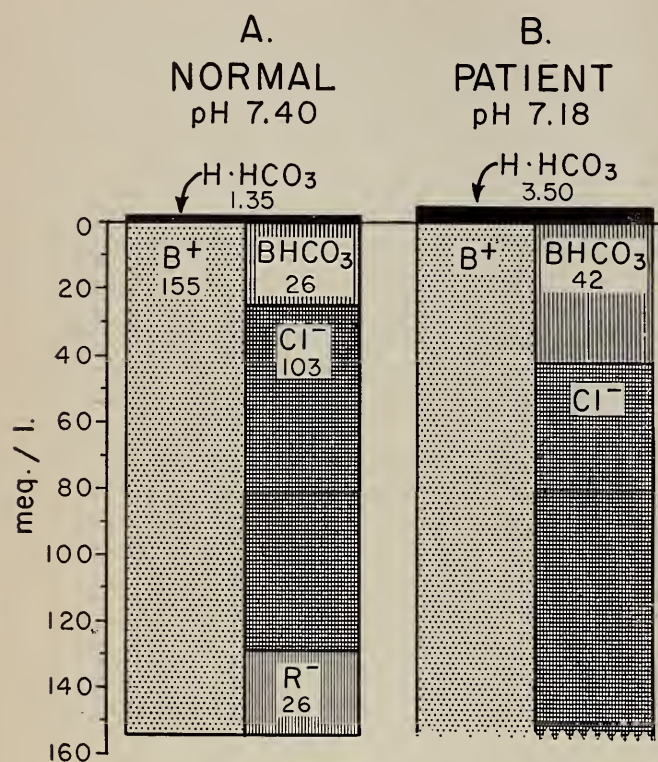
The differentiation of emphysema from intrinsic bronchial asthma is dependent upon the over all clinical picture and response to treatment.

Dr. Stuart C. Cullen, Anesthesiology: Would one expect any difference from the adrenalin administered intramuscularly or intravenously than that administered by nebulization? Is the circulation in the bronchioles so interfered with that there is an inability of the epinephrine to act in its usual fashion?

Dr. Seebom: Our experience runs like this: the patient who obtains no benefit from parental administration of adrenalin usually obtains no benefits from the aerosol preparations. In general, we tend to go from aerosol to hyperdermic administration.

Dr. Cullen: I have a few remarks to make in respect to oxygen therapy in patients with chronic hypertrophic pulmonary emphysema. This patient was most resistant to any effort to remove his oxygen therapy and it is reasonable to assume that he obtained some benefit from it. There are, how-

ever, certain temporary hazards associated with the administration of oxygen therapy to a patient with chronic hypertrophic pulmonary emphysema when that patient is at a stage in which there is significant reduction of hemoglobin and evident



cyanosis. If oxygen is administered to patients at that stage in 50, 60, 70 or 100 per cent concentrations, there are occasions in which patients will cease to respire upon administration of the oxygen. If they continue to respire, they may go through a period of disorientation and perhaps coma.

It is assumed that under the circumstances in which the patient has sufficient reduction in his oxygen tension to produce cyanosis, the drive for ventilation is through chemo-receptors rather than primarily through the respiratory centers. The administration of oxygen may elevate the oxygen tension in the arterial blood sufficiently to remove the chemo-receptor drive. In the interval between the removal of that drive and the restitution of respiratory center activity, there may be apnoea. This can be corrected, of course, by active ventilation by artificial means. It is assumed that if the patient continues to breathe, disorientation and coma may be a function of readjustment of carbon dioxide tension.

Barach maintains that oxygen therapy is extremely beneficial to these patients, from the standpoint of palliative therapeutic benefit as well as symptomatic relief. He recommends the building up of oxygen tension over a relatively long period of time in the patient who is cyanotic at the time of the administration of oxygen so that he can make whatever physiologic adjustments need to be made. Regarding the patient who tolerates the oxygen ultimately or originally in 50 to 60 per

cent concentrations, he argues that there is a compensation on the part of the carbon dioxide tension to the extent that there is a more efficient distribution or removal of carbon dioxide. With the administration of oxygen to such patients, there is a reduction in the rate of respiration, a reduction in the minute volume exchange and concomitantly, an elevation in their carbon dioxide tension.

How this compensation or more efficient exchange takes place is difficult to understand. Perhaps the greater differential existing between the carbon dioxide tension in venous blood and the tension within the alveoli accounts for the more efficient removal of carbon dioxide. In any event, it is maintained that the patient benefits under oxygen therapy from symptomatic relief as well as from a readjustment of his respiratory physiologic mechanisms.

It is well to keep in mind that the interference with ventilation is primarily mechanical, in a patient such as this. As he inspires, assuming an obstruction to expiration, the bronchioles dilate and lengthen and air can enter peripheral alveoli. As he expires, the bronchioles shorten and contract. If there is a hypertrophic change in the lining of the bronchioles the air is trapped behind and produces the emphysematous change.

The loss of elasticity of the lung interferes also with emptying of the lung on the passive expiratory phase, with the result that there is a smaller differential between the interpleural pressure and the atmospheric pressure. The normal patient can develop the negative intrapleural pressure and therefore has a greater differential between atmospheric pressure and intrapleural pressure. The patient with pulmonary emphysema does not have that degree of differential between atmospheric pressure and intrapleural pressure, with the result that his lungs are inadequately filled. In addition, there is inadequate emptying. The diaphragm stays depressed, the chest does not collapse, and the lungs remain relatively inflated with consequent inadequate tidal exchange, as well as diminished minute volume exchange.

Dr. Sheets: Let us use one of the diagrams which were popularized by Gamble. In part A (fig. 3), the normal concentrations of electrolytes in the blood are indicated. The ratio of the carbonic acid to the plasma bicarbonate is normally maintained at 1:20. This ratio is reflected in a normal pH of the blood from 7.35 to 7.45.

A patient with emphysema or chronic hypoxia of this sort has poor ventilation and retains carbon dioxide. In oxygen therapy, the oxygen decreases the stimulus to the chemo-receptors since more oxygen diffuses into the arterial blood because of the increase in the alveolar capillary pressure gradient. Consequently, ventilation is decreased and there is rapid retention of carbon dioxide which increases the carbonic acid concentration (part B, fig. 3). With an uncompensated increase

(Continued on page 598)

The JOURNAL of the

Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines

MISS MARY L. McCORD, Managing Editor.....Des Moines

RANSOM D. BERNARD, M.D., Business Manager.....Des Moines

MR. DON L. TAYLOR, Advertising Manager.....Des Moines

MISS JOYCE MEYER, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City

ALLAN G. FELTER, M.D.....Van Meter

DANIEL A. GLOMSET, M.D.....Des Moines

TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington

JOHN W. BILLINGSLEY, M.D., Trustee.....Newton

WENDELL L. DOWNING, M.D., Trustee.....Le Mars

ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines

EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,
529-36th Street, Des Moines 12

Vol. XLII

DECEMBER, 1952

No. 12

POSTELECTION HARMONY

Now that General Dwight D. Eisenhower has been named President, after an election which polled 60 million votes, the medical profession should not settle back into complete complacency. True it is that we know where the next President stands in regard to the constant threats of socialized medicine which marked the present administration. But that is no excuse to quit fighting for the principles of freedom in the practice of medicine.

We have won a battle and possibly a campaign, but physicians have not won the war which concerns health matters. There is still so much to be accomplished in the field of public relations. We have been fortunate in receiving the backing of the American public, but in return we are expected to uphold the honorable traditions of the profession in service, not selfish gain. Medicine must continue to amplify the accomplishments of the first half of the century in improving the quality of medical care without raising its costs, in the continuation of research and the elimination of substandard living conditions. American physicians, regardless of political party affiliations, now have a much better opportunity for enhancing the profession. However, this can be accomplished only by the old principles of unselfishness, unity of purpose and professional harmony. Now is the time for the physicians of Iowa to come to the aid of their profession, so that the citizens of the state will understand that their confidence in us shall not be misplaced.

BOARD OF MEDICAL EXAMINERS STANDS ON ESTABLISHED POLICY

In recent months the Board of Medical Examiners has been subjected to undeserved criticism for its policy regarding licensure of foreign physicians. This criticism has not come from the profession nor from informed persons. Rather, it originated in the press, which probably did not have all of the facts at its command. The Iowa State Medical Society has repeatedly gone on record as supporting the work of the examiners in elevating standards of practice in the state.

Many misunderstandings exist regarding the authority of the Board. Under the Iowa Code it may draw up rules of procedure under which it may operate and fulfill its legal functions. It has no power of enforcement; this rests with the Commissioner of Health.

The Board now requires that each applicant must present a diploma issued by a medical college approved by the examiners. Minutes of the Board's meeting on October 16 elaborate on this. Each applicant must then pass an examination in the subjects of anatomy, chemistry, physiology, materia medica and therapeutics, obstetrics, pathology and the theory and practice of medicine and surgery. Each applicant must also present satisfactory evidence that he has completed one year's internship in an approved hospital.

The Board's fourth requirement is that an applicant give evidence that he has filed his intention of becoming a citizen in good faith before he shall be considered eligible for examination. This is a relaxation of a former rule which required full citizenship.

It is this part of the ruling for which the Board is being criticized. There are those who honestly believe that citizenship need not enter the picture. The members of the examiner's board, however, feel that the desire for citizenship is part and parcel of a man's moral character, an indication of the manner in which he wishes to serve the public. In fact, the Veterans Administration requires citizenship of all staff and examining physicians. Physicians are dedicated to serving humanity to the best of their ability. It is inconceivable to many of us that a man who leaves his birthplace because of oppression, political degradation or any of the other reasons for which displaced persons come to this country, should hesitate to become a citizen of the republic which has given him entry. Many of these persons are virtually people without a country. Is it asking too much that, if they are admitted here and given the opportunity to make a living for themselves and their family, they show evidence of their good faith by becoming a citizen of the country that has befriended them?

The requirement that the physician who lacks evidence of his medical training shall take one year's internship in an approved hospital in Iowa has also been criticized. This requirement is made

because it is the only manner in which the medical examiners can be sure of the man's competency under existing conditions, since his records cannot substantiate it. The citizens of Iowa are entitled to that protection. They have set up the Board of Medical Examiners to examine applicants for licensure in order to be sure only qualified persons receive such licenses. The Board is merely living up to its responsibilities in imposing that regulation.

This whole question has received much publicity, but it is the feeling of your editor that the Board is doing its best for the citizens of the state. We feel the members of the Board deserve the thanks, not only of the medical profession, but also the rank and file of Iowans for their work in endeavoring to maintain high standards for medical practice and yet license all those who merit it.

TUBERCULOSIS

One of the fascinating facets of twentieth century medicine is that one never knows when the treatment of a disease is about to be "activated." For years treatment may be complacently stagnant. Then, all of a sudden, an explosion occurs and new areas for study are opened. After listening to a recent talk, "Chemotherapy of Tuberculosis," by Dr. Galinsky, and after reading Beckman's new book, "Pharmacology in Clinical Practice,"¹ it became apparent that a chain reaction had been set off in the treatment of tuberculosis.

Prior to World War II the treatment of tuberculosis was quite static; rest, pneumothorax and thoracoplasty were the standbys. Beginning with World War II, a series of antituberculous drugs burst on the scene. Now we have so many to choose from that we may forget a few. Streptomycin, dihydrostreptomycin, para-aminosalicylic acid, hydrazides of isonicotinic acid and promizole, plus auxiliary drugs such as Benemid, streptokinase and cortisone, are a few of the more prominent pharmaceutical agents being used today. Even the surgeons have come up with new approaches, such as lobectomy and wedge resection.

The efficacy of hundreds of new drugs has been tested. Already in the slag pile or fading into dust are many sulfa compounds: "Tibione," viomycin, neomycin and others. They have failed the rigid tests of effective dosage, duration of treatment and toxicity. If a drug passes all these barriers, it must be tested with complementary or supplementary drugs and the dosage, duration of treatment and toxic effects of the combination must be reascertained. Finally, when some routine appears to be established, a new drug appears on the scene and the whole gamut of testing must be reinstituted. Someday we will have the problem licked. We live in a fascinating world!

SHOULD COUNTY SOCIETIES PROVIDE INDOCTRINATION COURSES?

For several years some of the large county med-

ical societies on the East and West Coast have held indoctrination courses for new physicians. These courses have included a survey of existing medical facilities so that the new members might have information on the many agencies to which they may refer for help on specific problems. They covered methods of office procedure, billing customs, information about collections, hospital practices,—in fact, they attempted to cover the many new situations which confront a physician entering practice for the first time.

These courses must be invaluable in large communities. They also have a place in the smallest county. There probably is not a physician in Iowa who has not been asked by a new man how to proceed in such and such an instance. Today, with Blue Cross and Blue Shield covering many of our patients, it is essential that the new physician understand how they work. He would appreciate knowing the scale of fees in the community, how he can obtain staff membership in the hospital he will use, what to do about collecting his accounts and possibly, how he should set up his office, as well as many other procedures.

We believe the smallest county medical society could well devote one meeting a year to discussing such matters. Even doctors who have been in practice for a number of years might welcome suggestions from other men.

It has been said that many of our modern medical schools do a good job of teaching the science of medicine but fail in teaching the art of practicing medicine. It is the human touch that ties your patients to you. While a good part of that must come from within, a man can be started in the right direction by the counsel of his colleagues.

The central office is inevitably a repository for many of the complaints made by patients against doctors. Two of the most common at the present time concern long waits in the doctor's office and the poorly-trained receptionist or secretary who does not give the patient due consideration. The Committee on Patient-Physician Relations will undoubtedly do much to educate members of the State Society in these matters. However, it is fitting to say that patients resent the fact they cannot obtain an appointment in some offices. They feel their time is as valuable as the doctor's and that they should be given more consideration when they wish to consult him. They also resent any lack of courtesy on the part of the doctor's office force.

It seems unnecessary to repeat that most persons visiting a doctor are ill, yet the fact remains that this is seemingly forgotten, in some offices. Long periods of waiting or lack of consideration by the staff can be magnified many times by patients who are under par.

If indoctrination courses for new physicians can educate them to the value of good public relations, in addition to the other mechanics of practice, they will be a most worthwhile adjunct.

1. Beckman, H.: *Pharmacology in Clinical Practice*. Philadelphia, W. E. Saunders Co., 1952.

President's Page

I would like to take this opportunity to extend the Season's Greetings to each and every one of you, with the hope that the holiday season will be a happy and prosperous one. While the new year promises a much more auspicious era for the medical profession, momentous problems still remain for us to solve. We must not forget that, by the very fact that socialized medicine has been halted, a greater responsibility has been imposed upon us all to live up to the confidence shown in us.

Many physicians have sons in Korea and in the European theater of operation, so this holiday season let our thoughts and prayers be with these parents, with the fervent hope that peace may soon be forthcoming.

B. T. Whitaker

President

General Manager's Page

THE AMA WASHINGTON OFFICE COMES TO OMAHA

Dr. Frank Wilson, successor to Dr. Joe Lawrence as head of the AMA Washington Office, sponsored a one day legislative district meeting November 9 in Omaha. Dr. J. D. McCarthy, a member of the Committee on Legislation of the American Medical Association, was in charge of the meeting. Representatives from the following states were present: North and South Dakota, Nebraska, Kansas, Missouri and Iowa.

The object of this meeting was to discuss, informally, legislation which is anticipated and which will be introduced to Congress during the next session. Also, it offered an opportunity for Dr. Wilson to become personally acquainted with representatives from each state who are responsible for legislative activity within the state, and to meet the men who are in direct contact with members of Congress.

Since the inauguration of these meetings and the establishment of this liaison, it has been possible for the Washington Office to obtain contacts with top state officials in an incredibly short time.

Your Society was represented by your president, president-elect, executive-secretary, general manager and members of the Legislative Committee.

R. S. Bernard, M.D.

General Manager

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. LONNIE A. COFFIN, Farmington

President-Elect—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

Secretary—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

Treasurer—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

COUNTY AUXILIARY ACTIVITIES

Twenty-two members of the Appanoose County Auxiliary met at the home of Mrs. Elmer A. Larsen, Centerville, October 7 at 1 p.m. to observe guest day. Guests at the cooperative luncheon were the wives of the physicians of Wayne and Davis counties. Following the luncheon and business meeting, Mrs. Ralph Edwards talked on nurse recruitment. Mrs. Elmer A. Larsen reported the meeting of the American Life Association, held in Madison, Wis., and presented a tape recording of Mrs. Haven Smith's address, "My Stake in Rural America." Mrs. Claire H. Mitchell, Cincinnati, spoke of the need for more Auxiliary members and more loan funds for medical students. Mrs. Clarence D. N. Gilfillan, Mrs. Edwin Gilfillan, and Mrs. Home Gilfillan, all of Bloomfield, secured memberships-at-large.

MRS. JAMES C. DONOHUE

A nurse recruitment program and tea was held Saturday at the Methodist Church by the Women's Auxiliary to the Dallas-Guthrie County Medical Society.

Junior and senior students interested in nursing as a career were present from Perry High School, St. Patrick's School, and from the high schools at Woodward, Granger and Jamaica. Mrs. F. A. Wilke, president of the Auxiliary, welcomed the students and guests.

Mrs. W. C. Wildberger, chairman of the nurse recruitment program, introduced Miss Jessie Norelius, executive director of the Iowa State Nurses Association, who spoke to the group.

She spoke from her own experiences in many fields of nursing and talked of the opportunities presented in modern nursing fields.

She also emphasized the fact that there is not now a sufficient number of nurses in any of the nursing fields.

Information on the available scholarships and loans was given and she told of the student nurse loan fund of the Women's Auxiliary to the State Medical Society.

MRS. FRANK A. WILKE

The Woman's Auxiliary to the Emmet County

Medical Society held their first fall meeting at the home of Mrs. Andrew I. Reed, Estherville, with six members present. Two new members, Mrs. Dale Dunn and Mrs. D. E. Wolters, were introduced. Members have been active in conducting a voters survey. They plan to assist in getting voters to the polls on election day. Mrs. George B. Johnston was appointed committee chairman to arrange a tea for future nurses. Plans for making Christmas favors for hospital trays were discussed.

MRS. JAMES P. CLARK

Fifteen members of Wapello County Auxiliary met at the home of Mrs. John H. Stewart on October 7 at 7:30 p.m. Mrs. Claire H. Mitchell, Cincinnati, and Mrs. Elmer A. Larsen, Centerville, were guests. Mrs. Mitchell discussed the need for Auxiliary members to help get out the vote. Mrs. Ralph J. Selman reported that all the schools in the city have *Today's Health* in their libraries.

MRS. WALTER E. ANTHONY

ELEVENTH DISTRICT MEETING

A luncheon meeting was held at the Hotel Whitney, Atlantic, October 14, by the physicians' wives of the eleventh district of the Iowa State Medical Society. Mrs. E. M. Petersen, president of the Cass County Woman's Auxiliary, presided at the meeting. Mrs. Charles H. Flynn, district councilor, gave a welcoming talk and introduced Dr. Oscar Alden of Red Oak, medical councilor of the eleventh district. Dr. Alden emphasized some of the ways in which the Auxiliary can be of assistance to the State Medical Society and its projects.

Mrs. Lester Hegg, Rock Valley, spoke on "Auxiliary High Points." Mrs. Dean King, Spencer, spoke on the Nurse Recruitment and Loan Fund. Mrs. Howard Smith, Woodward, immediate past president of the Woman's Auxiliary to the Iowa State Medical Society, concluded the meeting with a discussion of a topic of current interest, public relations. A fine musical program was presented.

Seven counties were represented in the group. All the women present felt that meetings of this type are highly worthwhile. They expressed the desire for follow-up programs of this kind.

MRS. CHARLES H. FLYNN, *Councilor*

A REMINDER

All secretaries of county auxiliaries are requested to send reports of each meeting to their councilors.

HOW TO SELECT A LEADER

A good leader is not necessarily the person who knows most about parliamentary law, though a working knowledge of correct parliamentary usage is important to a leader; a good leader is not necessarily the person who is an able platform speaker, although that is a real asset; a good leader is not necessarily the person who is the best dresser in the group, although a leader owes it to herself and her group to be well-groomed. Fortunately it costs no more money to be carefully groomed than to be untidy about one's dress and person, although it takes more time and thought. A good leader, we believe, is the person who has vision and can get her group to cooperate with her to achieve it.

In a democratic country such as this, leaders are being developed constantly, so when there is a demand for a real leader, generally speaking, such a person can be found. We, you and I, make leaders possible, for their selection is our responsibility.

Leaders should be selected on the basis of health, executive ability and spirituality. The greater the responsibility, the more important becomes the consideration of health of the leader. A person in fair health with certain physical handicaps may carry well the chairmanship of a committee or the leadership of a department of an organization but lack the physical vigor to be the organization's president.

A leader should have executive ability. She should learn at once what her duties are according to the organization's by-laws and then proceed to carry them out in detail; she should have a knowledge of organization and organization methods. A good leader does not do all the work herself but sees to it that it is done. She knows how to delegate work to people especially adapted to it, and usually is able to recognize ability in unexpected places, in people who need only the opportunity to demonstrate their capabilities.

A good leader has certain spiritual qualities. She possesses integrity. In other words, she is honest and sincere. She believes in her organization, else she would have refused its leadership; believing in it, she is happy in her work and it is important. A leader should be akin to her group, one of them, only larger spiritually, perhaps, and more vital.

A good leader should have courage and firmness of spirit. Such a person does not become discouraged easily. She loses herself in making a success of her leadership; she is ambitious, not for herself but for her organization and its objectives; she

exemplifies the Bible truth: "He who would be greatest among you, let him be your servant."

A good leader loves people so she has sympathy for the idiosyncrasies of certain members of her group, the failings of others, the dreams of others and the possibilities in still others. A leader must be able to get people to work. She believes in people, with the result that they come to believe in themselves.

A good leader should have personality and energy to spare. This will help her to be convincing. We do not follow ideas, rather we follow women full of energy and enthusiasm.

—MRS. W. E. MINIER, from *The P.E.O. Record*, February, 1950.

RURAL DOCTOR SHORTAGE?

We keep hearing so much about the doctor shortage in rural areas. What is not so obvious is that our gasoline engine and its drivers may be running the country doctor out of business. This medical problem is discussed in a recent article in the *Mississippi Farm Bureau News*. The writer points out that the lure of the city has bedazzled patients and, in many cases, the doctors alike, so that local people call on the rural doctors only in emergencies. The article concludes: "We need to stop many needless trips into the cities when we are ill. Unless your illness is serious, or has been referred to a specialist by your family physician, don't take that trip. Stay at home. Keep your medical bills at home. Reinstate your family physician. He is a valuable man to have around." This is a philosophy that bears repeating in every small American community. This is the message in the AMA's *PR DOCTOR*.

—*The Keystone Formula*, September, 1952.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

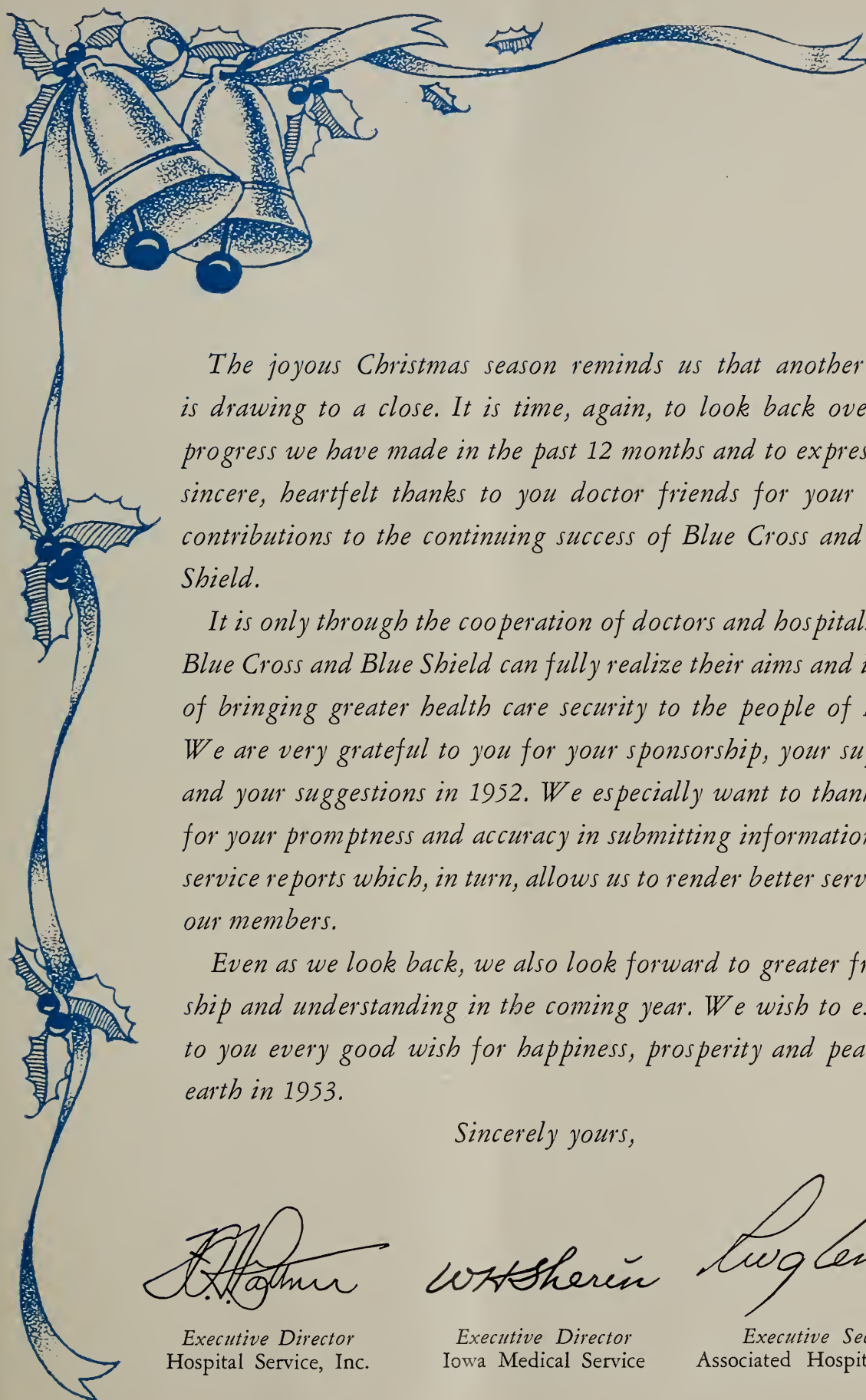
EVERYDAY HEALTH PROBLEMS

| | |
|------------------|----------------|
| December 4..... | Arthritis |
| December 11..... | Vacations |
| December 18..... | Accidents |
| December 25..... | Undulant Fever |

WSUI—Tuesday at 11:45 a.m.

GUARDIANS OF YOUR HEALTH

| | |
|------------------|--|
| December 2..... | Doctors Guard Your Health |
| December 9..... | A Health Department for Every Community |
| December 16.... | Accidents . . . A Leading Cause of Death |
| December 23.. | Sanitation . . . An Unfinished Job |
| December 30..... | Health in Our Schools |



The joyous Christmas season reminds us that another year is drawing to a close. It is time, again, to look back over the progress we have made in the past 12 months and to express our sincere, heartfelt thanks to you doctor friends for your great contributions to the continuing success of Blue Cross and Blue Shield.

It is only through the cooperation of doctors and hospitals that Blue Cross and Blue Shield can fully realize their aims and ideals of bringing greater health care security to the people of Iowa. We are very grateful to you for your sponsorship, your support and your suggestions in 1952. We especially want to thank you for your promptness and accuracy in submitting information and service reports which, in turn, allows us to render better service to our members.

Even as we look back, we also look forward to greater friendship and understanding in the coming year. We wish to extend to you every good wish for happiness, prosperity and peace on earth in 1953.

Sincerely yours,

Executive Director
Hospital Service, Inc.

Executive Director
Iowa Medical Service

Executive Secretary
Associated Hospitals Service

Iowa Academy of General Practice

President—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

President-Elect—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

Vice President—Thomas L. Ward, M.D., Arnolds Park

Secretary-Treasurer—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

Executive Secretary—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

ARE WE GOING TO ACCEPT THE CHALLENGE?

The results of the recent presidential election give assurance that we have not lost our individual rights, liberties and responsibilities. It has been a long uphill battle. The doctors' role has been most important, individually and collectively, in protecting patients against socialized medicine.

To preserve these rights and liberties, we must forever accept our responsibilities to society. We have challenged the government, in the belief that we can give our people better medical care and at less cost than it can, and because organized medicine allows the doctor initiative to improve upon himself, as well as reward for achievement. We must not fail to utilize these factors in furthering the advance of medicine.

The electorate has returned to us the privilege we so cherish. In accepting it, we agree to take care of the sick, whether rich or poor, to assure them of the best medical treatment available. It is not an easy responsibility, but if each of us accepts it we need never fear the threat of socialized medicine.

So often we doctors forget that there are other worthwhile groups in society with rights, privileges and responsibilities, whose continued support can be assured only by our wholehearted cooperation.

We must assume our rightful role in charity. Our fees should not be the same to all; rather, they ought to be determined by ability to pay. As family doctors, you know the social and economic standards of your families. In referring them to a specialist for definitive treatment, you should inform him of ability to pay. So often the specialist has no knowledge of the patient's economic standing. He may charge the same fee to patients at opposite ends of the financial scale. We have been rightfully criticized for overcharging in certain instances. Our patients should never have cause to go to the Grievance Committee for such charges. The greatest support to socialized medicine would be a continuation of excessive fees.

We must, likewise, protect and guide those who are unable to plan for themselves or their children. Assuming the role of protectorate, we need never fear the desire of big government to regiment the unfortunate or less fortunate and take away

our privileges. The less fortunate must never have cause to fear, for it was this fear that gave rise to a form of government that threatened the constitutional rights and privileges of all.

The third factor which will enable us to hold rein on organized medicine is to further our education and raise the standards of general practice. If we become lackadaisical, content with our formal education and internship, we deserve to be called "pill rollers." Granted, we are busy people and have little spare time. Nevertheless, we should take time each year for a refresher or postgraduate course. The periodic meetings of the Iowa Academy of General Practice and the great annual meeting of the American Academy of General Practice, to be held in St. Louis in March of 1953, will help satisfy this need. However, we must not stop at this minimum requirement if at all possible.

WORLD MEDICAL ASSOCIATION ON

"MEDICAL ASPECTS OF SOCIAL SECURITY"

The October, 1952 issue of the *World Medical Association Bulletin* contains an illuminating article on the appraisals and recommendations of medical men regarding the proper perspective of our profession toward social security programs involving medical service. This article states that the views of doctors coincide closely with the internationally accepted definition of health as "complete mental, physical, and social well-being." It also recognized that well-being is not equal to the sum of satisfactory mental, physical and social conditions as laid down in other documents. Rather, it is based on an emotionally founded appreciation of these favorable circumstances. The article continues with a detailed discussion of this last point and closes with the 12 principles of social security. These express the views of the profession on the relationship between medicine and social security, as laid down by the General Assembly of the WMA at its Geneva meeting in 1948. The principles follow:

1. Freedom of choice of physician by the patient. Liberty of physician to choose patient except in cases of urgency or humanitarianism.

(Continued on page 598)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE HISTORY OF AMERICAN EPIDEMIOLOGY, by C.-E. A. Winslow, Dr. P. H., Professor Emeritus, Yale University School of Medicine; Editor, American Journal of Public Health; Wilson G. Smillie, M.D., Professor and Chairman, Department of Public Health and Preventive Medicine, Cornell University Medical College; James A. Doull, M.D., Medical Director, Leonard Wood Memorial (American Leprosy Foundation); John E. Gordon, M.D., Professor and Chairman, Department of Epidemiology, School of Public Health, Harvard University; edited by Franklin H. Top, M.D., Professor of Epidemiology and Pediatrics, College of Medical Sciences, University of Minnesota. C. V. Mosby Co., St. Louis, 1952. Price \$4.75.

PARDON MY SNEEZE, by Milton Millman, M.D., Fellow American Academy of Allergists, Member American College of Allergy. Frye and Smith, Ltd., San Diego, Calif., 1952. Price \$2.00.

THE 1952 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY (July, 1951-June, 1952), edited by J. P. Greenhill, B.S., M.D., F.A.C.S.; Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Attending Obstetrician and Gynecologist, Michael Reese Hospital; Associate Staff, Chicago Lying-in Hospital. The Year Book Publishers, Inc., Chicago. Price \$5.50.

BOOK REVIEWS

THE LOW FAT DIET COOKBOOK, by Dorothy Myers Hildreth, dietician, and Eugene A. Hildreth, M.D. (Medical Research Press, New York, \$2.95.)

As indicated by the title, this book is confined to the basic facts of the low fat diet. Over 200 recipes are included. Obviously this volume is of particular value for patients requiring a low fat diet.—E. M. George, M.D.

LIVING WITH CANCER, by Edna Kaehele, (Doubleday & Company, New York, \$2.00.)

This volume relates the personal experiences of a patient after she learned that she suffered from cancer. Physicians will do well to recommend that patients who are apprehensive about their future, following a diagnosis of cancer, read this book.—E. M. George, M.D.

THE PRINCIPLES AND METHODS OF PHYSICAL DIAGNOSIS: Correlation of Physical Signs with Physiologic and Pathologic Changes in Disease, by Simon S. Leopold, M.D. (W. B. Saunders Co., Philadelphia, \$7.50).

This book is written primarily for students entering the clinical phase of medicine. It is lucidly composed and documented in an orderly fashion. Chapters on examination of head, musculoskeletal system, breasts, thorax, chest, circulatory system, abdomen, genitalia, extremities and neurological systems are supplemented with chapters on routine data and history taking. Multiple photographs and illustrations demonstrating methods of examination and various pathologic changes to be expected help to bridge the gap between the normal and abnormal examinations. For example, there are descriptions of the examination of the normal chest and of the examination of the chest in asthma,

tuberculosis, empyema and other diseases. There has been a notable diminution in listing of all the "men's name" signs which medical students of an earlier day had to memorize by rote.—D. A. Glomset, M.D.

THE UNIPOLAR ELECTROCARDIOGRAM, A Clinical Interpretation, by Joseph M. Barker, M.D. (Appleton-Century-Crofts, Inc., New York, \$12.50).

As the clinical electrocardiogram began with Einthoven, so the science of electrocardiography may be said to have begun with the fundamental researches of the University of Michigan group headed by Frank N. Wilson. The empirical method of interpreting electrocardiographic tracings has steadily lost ground as understanding of the electrophysiology of cardiac muscle has increased.

This volume is one of a great number of new texts on electrocardiography expounding the new science. Like many others, it is an avowed elaboration of the work of Wilson, who, interestingly enough, has never authored a textbook on the subject despite his innumerable contributions to other volumes and to the periodical literature.

Wilson's own lectures and writings are often difficult for the physician who is not well versed in mathematics and electrophysics. This problem Barker attempts to solve by translating mathematical formulae and terminology into prose form, by the use of detailed descriptions and by numerous original line drawings and diagrams. The result is a well illustrated, and for the most part, a readable textbook of more than 600 pages. It constitutes a valuable reference volume. A stimulating foreword by Professor Wilson himself makes the book additionally interesting to anyone working in the field of cardiology.—H. J. Smith, M.D.

CORRELATIVE CARDIOLOGY, An Integration of Cardiac Function and the Management of Cardiac Disease, by Carl F. Schaffer, M.D., and Don W. Chapman, M.D. (W. B. Saunders Co., Philadelphia, \$9.50).

This compendium is a prototype of our 1952 streamlined diagnosis and therapy for today's patient.

The authors have included a discussion of the pros and cons of cardiac fatalities resulting from the injudicious use of quinidine sulphate. Their chapter on mercurial diuretics seems incomplete.

The authors, in my opinion, inadequately explained the differences between right and left ventricular failure. They did not discuss or describe subendocardial thrombosis. The term "myocarditis" was rather loosely used. The brochure mentions acute sodium chloride depletion but neglects acute hyponatremia due to water retention in congestive heart failure patients.

I regret to say I am unable to see one good reason why this compendium was published.—G. H. Finch, M.D.

STATE DEPARTMENT OF HEALTH

Walter L. Looming

INFECTIOUS HEPATITIS

This infection, always present in Iowa in low case numbers in a few scattered areas of the state, has become more widespread, with levels of high epidemic incidence in many countries during the biennium.

The following is the summary of the reported incidence of the disease in Iowa.

| YEAR | CITY OR TOWN | COUNTY | NUMBER OF CASES |
|---------|-----------------------|------------|-----------------|
| 1931 | Rural School District | Des Moines | Few |
| 1938 | Everly | Clay | 70 |
| 1939 | Clarksville | Butler | 31 |
| 1942 | Zearing | Story | 4 |
| 1944-45 | Tama-Toledo | Tama | Several Hundred |
| 1945 | Hendrick | Keokuk | 4 |
| 1945 | Oskaloosa | Mahaska | Few |
| 1945 | | Clinton | Undetermined |
| 1944-45 | Manning & Vicinity | Carroll | Over 100 |

No cases were reported in Iowa from 1946 through 1950, but the following infectious hepatitis deaths were reported in 1950.

| | | | | | |
|---------|---|--------|---------|---|---------------|
| Boone | 1 | Age 46 | Polk | 2 | Age 2 and 73 |
| Bremer | 1 | Age 52 | Sioux | 1 | Age 57 |
| Clinton | 1 | Age 68 | Wapello | 1 | Age 36 |
| Fayette | 1 | Age 81 | Webster | 2 | Age 74 and 78 |
| Johnson | 1 | Age 33 | | | |

The reported cases and deaths for 1951 were as follows:

| CASES 1951 | | DEATHS 1951 | |
|----------------|----|-------------|----------|
| Calhoun | 2 | Cedar | 1 Age 38 |
| Des Moines | 35 | Chickasaw | 1 Age 67 |
| Iowa | 3 | Hardin | 1 Age 83 |
| Kossuth | 4 | Jefferson | 1 Age 67 |
| Page | 10 | Polk | 2 Age 28 |
| Polk | 2 | | Age 72 |
| Story | 1 | Winneshiek | 1 Age 76 |
| Warren | 2 | Woodbury | 1 Age 66 |
| Washington | 17 | | |
| Woodbury | 4 | | |
| 80 Total Cases | | | |

CASES 1952 by COUNTY—JANUARY 1 THROUGH OCTOBER 25

| COUNTY | CASES | COUNTY | CASES | COUNTY | CASES |
|----------------|-------|------------|-------|---------------|-------|
| Adair | 1 | Ida | 3 | Polk | 45 |
| Appanoose | 21 | Johnson | 1 | Pottawattamie | 17 |
| Boone | 1 | Linn | 4 | Poweshiek | 1 |
| Bremer | 3 | Louisa | 1 | Scott | 137 |
| Cedar | 62 | Madison | 1 | Tama | 1 |
| Clinton | 10 | Mahaska | 1 | Taylor | 1 |
| Crawford | 19 | Monona | 15 | Warren | 4 |
| Decatur | 1 | Muscatine | 54 | Wapello | 4 |
| Des Moines | 148 | Page | 19 | Washington | 3 |
| Guthrie | 2 | Plymouth | 1 | Woodbury | 46 |
| Harrison | 7 | Pocahontas | 1 | Wright | 1 |
| Henry | 1 | | | | |
| Total 10-25-52 | | | | | 637 |

Des Moines County's outbreak started in 1951, reappeared during January of 1952. Gamma globulin 1 cc. per 25 pounds weight given to all contacts in two consolidated schools with outbreaks of the disease stopped the appearance of clinical cases. No illness appeared in inoculated persons after 72 hours following the injection. Protection, determined by monthly checks, lasted throughout the school year. Similarly, satisfactory results were obtained with the gamma globulin in Cedar, Monona and Muscatine Counties.

After a summer's lull throughout the state, infection is again being reported in Des Moines County (8 cases), Linn County (3 cases), Muscatine (2 cases), Polk County (30 cases), Scott County (8 cases) and Wapello (4 cases).

Control is a matter of good community and school sanitation and inoculation of close contacts of cases of the infection with gamma globulin. Accepted prophylactic dosage of gamma globulin ranges from 2 to 4 cc. per hundred pounds of body weight.

LEADING CAUSES OF DEATH IN IOWA

PERCENTAGE DISTRIBUTION, 1951

1. Diseases of the heart, 36.7%
2. Cancer and leukemia, 15.5%
3. Central nervous system vascular lesions, 13.9%
4. Accidents, 6.4%
5. Congenital malformations, 5.5%
6. General arteriosclerosis, 2.8%
7. Pneumonia and influenza, 2.4%
8. Diabetes mellitus, 1.7%
9. Nephritis and nephrosis, 1.6%
10. Suicide, 1.3%
11. Hypertension, .9%
12. Tuberculosis, .7%
13. All other causes, 10.6%

MORBIDITY REPORT

| DISEASE | OCT. 1952 | SEPT. 1952 | OCT. 1951 | MOST CASES REPORTED FROM THESE COUNTIES: |
|-------------------|-----------|------------|-----------|---|
| Diphtheria | 2 | 1 | 1 | Monona, Polk |
| Typhoid Fever | 6 | 5 | 2 | Scott (2); others scattered |
| Scarlet Fever | 23 | 10 | 29 | Black Hawk, Cerro Gordo, Clinton, Polk |
| Smallpox | 0 | 0 | 0 | |
| Measles | 40 | 22 | 14 | Davis, Linn, Wapello |
| Whooping Cough | 10 | 20 | 18 | Polk, Des Moines |
| Brucellosis | 42 | 30 | 41 | Cerro Gordo, Polk, Wright (4 each) others scattered |
| Chickenpox | 44 | 20 | 65 | Des Moines, Linn, Story |
| Meningitis Men. | 0 | 1 | 8 | |
| Mumps | 11 | 25 | 55 | Black Hawk, Des Moines |
| Poliomyelitis | 729* | 928 | 41 | Black Hawk, Cherokee, Dubuque, Polk |
| Rabies in Animals | 11 | 11 | 19 | Scattered |
| Tuberculosis | 67 | 51 | 52 | For the State |
| Gonorrhea | 52 | 47 | 42 | For the State |
| Syphilis | 81 | 93 | 141 | For the State |

* (114 delayed included)

THE STUDENT PUBLIC HEALTH NURSE REPORTS ON POLIOMYELITIS FOLLOW-UP WORK

The following summary of a public health nurse's work with a convalescent poliomyelitis patient is taken from the weekly report of a student public health nurse serving her three months period of supervised field training in an Iowa county. In editing the report we have made two minor changes: town and county names have been omitted and our nine year old's identification has been made difficult, we hope, by calling her Susie Smith.

We believe this report will reveal some of the working methods of the public health nurse.

"Of the poliomyelitis visits I have made, I have chosen to discuss those to Susan Smith. The regular staff nurse made the initial visit to the home and gave me her written record, to orient me on the case. Although Susie's course of illness had been considered mild, it presented many problems to the patient and to her family. Susie is nine years old and lives in a small house with her widowed mother and younger brother. The family's only income is from social security sources.

"Susie's illness began six weeks ago with headache, pain in the legs, slight fever, nausea and pain in the back and neck. This had been preceded by a sore throat which had been treated with sulfonamides. The illness was diagnosed as poliomyelitis by the family physician and treated at home with hot packs, as the case was considered mild.

"No special epidemiologic leads were obtained to aid in establishing a specific source for this case. Milk was pasteurized, the water supply and the disposal system met inspector's approval. There was no association with a known case or contact and there had been no deviation from normal routine.

"The regular staff nurse was originally notified about the case by the family physician. She made her first visit to the home to assist in carrying out recommendations made by the physician. She obtained an organization-owned hot pack machine, taught the mother how to use the machine and how to apply the packs ordered by the physician.

"At the time of my first visit Susie's progress was at a standstill. She was still in bed with pain and generalized weakness. I helped place bed boards under the mattress to improve the back-lying position ordered by the doctor and checked on proper position of head, back and extremities. Since Susie's orders permitted little movement in bed, we devised a reading rack which she could use and still maintain proper bed position.

"I soon observed that, because Susie was not doing as well at home as was hoped, her mother was overly protective and was making Susie more dependent upon her each day. She was also upset over Susie's slow recovery. After conferring with the staff nurse and the family physician, I suggested a return visit to the orthopedist for a re-

evaluation of the child's condition. As a result of his examination the orthopedist advised a period of hospitalization for close observation and physical therapy. Susie is there now.

"Susie's mother is receiving some rest. Since the National Foundation is paying medical and hospital bills, Susie's mother has no financial worries from this source. Our next real problem while Susie is still in the hospital will be to prepare the mother and the home for Susie's return."

AN APPRECIATION

Aldis Adelbert Johnson, M.D.
1880-1952

The Iowa State Board of Medical Examiners assembled in regular session Monday, October 27, 1952, have learned with deepest regret of the death of its former member, Dr. Aldis Adelbert Johnson of Council Bluffs, on Saturday, October 25, 1952, and desire herewith to record their tribute of regard and appreciation of his eminent services to Iowa medicine.

During his period of service on the Iowa State Board of Medical Examiners from 1932 to 1950 as member and chairman, he left the impress of his broad scholarship, his rare judgment and high concept of the standards of medical licensure, based on experience as a teacher of pathology and medicine and more than three decades as an ethical practitioner of medicine, with special qualifications in the field of internal medicine as attested by his election as Fellow of the American College of Physicians and Diplomate of the American Board of Internal Medicine.

The members of this Board will ever treasure the memory of his fine fellowship and inspiring personality, and hereby convey their sincere expressions of condolence to the bereaved wife and family.

It is further directed that this memorial appreciation be forwarded to Mrs. Johnson, and a copy submitted for publication in the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY.

H. E. FARNSWORTH, M.D., *Chairman*
GEORGE H. SCANLON, M.D., *Vice Chairman*
M. A. ROYAL, M.D., *Secretary*
WALTER L. BIERRING, M.D., *Commissioner*

TELEVISION SCHEDULE

WOI-TV at 8:30 p.m.

December 3..How to Live with Your High Blood Pressure
December 17.....Skin Health
December 31.....Cerebral Palsy

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The regular meeting of the Black Hawk County Medical Society was held October 21 at the Elk's Club, Waterloo. H. R. Gross, United States Representative from the district, spoke on "Political Aspects in the Practice of Medicine Today."

Hardin

Dr. William D. Paul, associate professor at the SUI College of Medicine, was the speaker at the dinner meeting of the Hardin County Medical Society, held in the Princess banquet room, Iowa Falls, October 14. Dr. Paul's subject was "The Problem of Poliomyelitis."

Henry

The Henry County Medical Society held a testimonial dinner for Dr. Walter A. Sternberg October 17 at the Harlan Hotel, Mt. Pleasant. Dr. Sternberg retired recently from active practice after serving his community for over fifty years. Several letters from medical colleagues of Dr. Sternberg were read at the dinner. Among the messages received were congratulatory letters from Dr. Walter L. Bierring and Dr. R. N. Larimer.

Linn

Dr. Louis L. Friedman, instructor in the department of obstetrics and gynecology at the University of Minnesota, addressed the members of the Linn County Medical Society October 9. The group met in the Roosevelt Hotel, Cedar Rapids. Dr. Friedman's subject was "Orientation in Sterility."

Page

Members of the Page County Medical Society and the Woman's Auxiliary to the Society met for dinner at the American Legion Country Club October 16. Speakers for the session were two psychologists from the Clarinda State Hospital. They discussed the function of the psychologist in a state hospital and tests used in diagnosis.

Polk

Dr. A. Carlton Ernstene, of the Cleveland Clinic,

Ohio, spoke on "The Diagnosis and Treatment of Coronary Heart Disease" November 19 at the meeting of the Polk County Medical Society. The group met at the Savery Hotel, Des Moines. The December 17 meeting of the Society is scheduled to include "A Symposium on Mitrovalveulotomy." Drs. Harold Margulies and Ralph A. Dorner will direct the discussion. The meeting will be held at Iowa Methodist Hospital, Des Moines.

Pottawattamie

Dr. Frederick G. Gillick, dean of the Creighton University School of Medicine, addressed some 35 members of the Pottawattamie County Medical Society October 21 at the Hotel Chieftan, Council Bluffs. Dr. Gillick's subject was "Modern Trends in Medical Education." Robert Crook, Atlantic, field director for the National Foundation for Infantile Paralysis, explained the functioning of the Foundation.

Sac

Dr. Jacques S. Gottlieb of the SUI College of Medicine, department of psychiatry, spoke to members of the Sac County Medical Society at their regular educational meeting held October 9 at the Park Hotel, Sac City. Dr. Gottlieb's topic was "The Tenth Cause of Death—Suicide."

Scott

Dr. J. Grafton Love, division of neurosurgery, Mayo Clinic, Rochester, Minn., was the speaker at the regular dinner meeting of the Scott County Medical Society held November 4 at the Davenport Outing Club. His subject was "Diagnosis and Treatment of Intractable Low Back and Sciatic Pain." The meeting featured the annual election of officers. New president is Dr. James F. Bishop; president-elect is Dr. Walter J. Balzer; vice-president, Dr. Raymond A. Berger; secretary, Dr. Atlee B. Hendricks, and treasurer, Dr. F. Dale Wilson.

Wapello

Dr. Glenn L. Walker, Burlington, addressed members of the Wapello County Medical Society at the monthly meeting held November 11 at St. Joseph's Hospital, Ottumwa. His topic was "Fundus Findings Accompanying Coarctation of the Aorta."

Washington

Members of the Washington County Medical Society met October 22 at the Medical Building, Kalona, for a scientific program. The principal speakers were Drs. Hans L. Ehrenhaft, William C. Keettel and John R. Maxwell, all of Iowa City. The clinic dealt mainly with maternal and infant welfare.

Woodbury

Dr. Paul F. Wehlre, research associate professor, University of Pittsburgh Graduate School of Public Health, reported to members of the Woodbury County Medical Society on the effects of gamma globulin at the regular meeting October 23. The meeting was held in the Hotel Mayfair, Sioux City. Dr. Wehlre's subject was "A Preliminary Report on the Present Status of Gamma Globulin Studies in Sioux City." He described the recently released report on the research, conducted under the direction of Dr. William Hammon, of the University of Pittsburgh.

PERSONALS

Dr. James B. Blair, Cherokee, was recently awarded a fellowship in the American College of Surgeons.

Dr. Addison W. Brown, Des Moines, has been appointed chairman of the state public education committee of the Iowa division of the American Cancer Society. Other physician officers include **Arthur W. Erskine**, Cedar Rapids, re-elected secretary; **H. Dabney Kerr**, Iowa City, director; **Harold W. Morgan**, Mason City, director and chairman of the board; **Siegmund B. F. Singer**, Ottumwa, vice-president, and **John F. Sulzbach**, Burlington, director.

Dr. John R. Camp, Thompson, recently discharged from Korean service in the navy, has located in Britt. He replaces retiring **Dr. Calvin O. Brewster**.

Dr. Frank C. Coleman, Des Moines, was elected to the board of governors of the College of American Pathologists at its recent annual meeting in Chicago.

Dr. James H. Dickens, Boone, has joined the staff of the Hilltop Medical and Dental Clinic, Mitchellville. A 1951 graduate of the SUI College of Medicine, Dr. Dickens served his internship at Iowa Lutheran Hospital, Des Moines, until July, 1952.

Dr. Merrill E. Henslin, formerly of Cresco, has located in Santa Ana, Calif., in partnership with **Dr. Frederick H. Schroeder**.

Dr. Paul E. Huston, Iowa City, addressed the Illinois Psychological Association, Champaign-Urbana, Illinois. His topic was "Relation Between Psychiatry and Clinical Psychology."

Dr. Peter E. James, formerly of Elkhorn, has opened an office in Audubon. He was recently honored in Elk Horn for 50 years of medical practice.

Dr. Francis N. Johnson, formerly of Madrid, has taken over the practice of **Dr. Andrew W. Puntene**, Boone, who left for military service with the navy October 12. Dr. Johnson was recently released from the service.

Dr. Jean S. LePoidevin, Waterloo, spoke on "Cardiac Surgery in Children" at the fall board of directors meeting of the Black Hawk County Tuberculosis and Health Association. **Dr. Maurice M. Wicklund**, Waterloo, presented a review of serial film studies.

Dr. Robert R. Updegraff, Des Moines, addressed the medical staff of the Guthrie County Memorial Hospital, Guthrie Center, at the regular monthly meeting. His subject was "Diagnosis of Nose and Throat Diseases."

DEATH NOTICES

Dr. Philip Charles Jeans, 69, specialist in children's diseases and professor of pediatrics at the University of Iowa since 1924, died October 22 of coronary thrombosis in the Hotel El Panama, Panama City, Panama. Death occurred during a tour sponsored by the World Health Organization. He was graduated from Johns Hopkins University School of Medicine in 1909. He was a member of the Johnson County and Iowa State Medical Societies at the time of death.

Dr. Aldis Adelbert Johnson, 72, Council Bluffs physician for 30 years, died October 25 in an Omaha hospital. Death was attributed to heart disease. Dr. Johnson was graduated from the Western Reserve University School of Medicine, Cleveland, in 1912. He was a member of the Pottawattamie County and Iowa State Medical Societies at the time of his death.

Dr. Arthur Lincoln Lock, 67, lifetime Rock Valley physician, died October 3 at his home after a period of ill health. Dr. Lock was graduated from the SUI College of Homeopathic Medicine in 1913. He interned in a Boston, Mass., hospital. Dr. Lock was a member of the Sioux County and Iowa State Medical Societies.

Dr. Edward Stuart Parker, 70, died October 6 at his Ida Grove home of a heart attack. He was a graduate of the SUI College of Medicine in 1908. Dr. Parker was a life member of the Ida County and Iowa State Medical Societies.

Dr. Walter Henry Schultz, 75, died November 2 at his home in Schleswig. He was graduated from the Rush Medical College, Chicago, in 1900. He interned for a year at St. Joseph's Hospital, Chicago, prior to locating in Schleswig. He was a member of the Crawford County and Iowa State Medical Societies until a year before his death.

ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of October 10, 1952

| | |
|--|--|
| Ackerman, J. H., Clarksville (Tallahassee, Fla.) ...Senior, Asst. Surg., U.S.P.H.S. | Johnson, M. H., Iowa City (APO New York, N. Y.) .....Capt., A.U.S. |
| Ashby, J. D., Davenport (Battle Creek, Mich.) .....Major, U.S.A. | King, R. E., Des Moines (APO San Francisco, Calif.) .....Capt. A.U.S. |
| Bartholomew, R. D., Lake City (Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R. | Kruse, R. H., Conrad (Pearl Harbor, T. H.) .....Lt., U.S.N.R. |
| Benge, D. K., Dows (APO San Francisco, Calif.) .....Capt., U.S.A. | Kuehn, W. G., Clarinda (APO San Francisco, Calif.) ....Lt. (j.g.), U.S.N.R. |
| Benton, J. S., Des Moines.....1st. Lt., A.U.S. | Kurth, R. J., Waterloo (Minneapolis, Minn.) .....Capt., U.S.A.F. |
| Bogle, W. C., Marion (Great Lakes, Ill.) .....Lt., U.S.N.R. | Landis, S. N., Des Moines (Shreveport, La.) .....Major, U.S.A.F. |
| Braatlien, N. T., Des Moines (Camp Carson, Colo.) .....1st. Lt., U.S.A.F. | Leiter, E. R. K., Des Moines (Bangor, Me.) .....Capt., U.S.A.F. |
| Brown, R. C., Mason City (Kansas City, Kan.) .....Capt., A.U.S. | Merkel, B. M., Des Moines (Greenville, S. C.) .....Col., U.S.A.F. |
| Dalager, R. D., Ottumwa (Annapolis, Md.) .....U.S.N.R. | Middleton, W. H., Central City (Quantico, Va.) .....U.S.N.R. |
| Davidson, M. C., Emmetsburg (El Paso, Tex.) .....Col., A.U.S. | Montgomery, A. E., Jefferson (Phoenixville, Pa.) .....Lt. Col., A.U.S. |
| Davis, S. K., Des Moines (Seattle, Wash.) .....Lt., U.S.N.R. | Mulder, L., Sioux Center (Sioux Falls, S. D.) .....Capt., U.S.A.F. |
| Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.) .....1st. Lt., U.S.A.F. | Neagle, P. E., Dubuque (Sault Ste. Marie, Mich.) .....Capt., A.U.S. |
| Dooly, J. E., Fort Dodge (Pleasanton, Calif.) .....Capt., U.S.A.F. | Nicholson, R. W., Paton (APO Seattle, Wash.) .....1st. Lt., A.U.S. |
| Fitch, R. E., Des Moines (Bangor, Me.) .....1st. Lt., U.S.A.F. | Nordin, C. A., Des Moines (Lackland Field, Texas) .....1st. Lt., U.S.A.F. |
| From, Paul, West Des Moines (San Antonio, Texas) .....1st. Lt., U.S.A.F. | Odell, J. E., Iowa City (Seattle, Wash.) .....Lt., U.S.N. |
| Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) .....U.S.A.F. | Paul, R. E., Des Moines .....U.S.N.R. |
| Greco, D. J., Des Moines (APO San Francisco, Calif.) .....1st. Lt., A.U.S. | Puntenney, A. W., Boone (Portsmouth, Va.) .....Lt., U.S.N.R. |
| Gustafson, J. E., Des Moines (Far East Command) .....1st. Lt., A.U.S. | Ruble, R. L., Nevada (Camp Chaffee, Ark.) .....A.U.S. |
| Horton, R. R., Algona (Seattle, Wash.) .....Lt., U.S.N.R. | Saunders, R. J., Colfax (Great Falls, Mont.) .....1st. Lt., U.S.A.F. |
| Jensen, K. V., Newton (El Paso, Texas) .....Capt., U.S.A.F. | Schultz, M. H., Waterloo.....Capt., U.S.A.F. |
| Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) .....Capt., U.S.A.F. | Shaffer, F. J., Iowa City.....Col., U.S.A.F. |
| | Shuldberg, Arthur, Des Moines (Gunter, Ala.) .....1st Lt., U.S.A.F. |
| | Smith, C. B., Iowa City (Ft. Sam Houston, Texas) .....Capt., A.U.S. |
| | Stutsman, R. E., Washington (Miami, Fla.) .....Cmdr., U.S.N. |
| | Thistlewaite, E. A., Des Moines (Riverside, Calif.) .....1st. Lt., U.S.A.F. |
| | Thomas, J. H., Rock Rapids (APO San Francisco, Calif.) .....Capt., U.S.A.F. |
| | Tice, W. K., Iowa City (Kansas City, Kan.).....1st Lt., A.U.S. |
| | Tyler, D. E., Shenandoah (Great Lakes, Ill.) .....U.S.N.R. |
| | Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) .....Capt., U.S.A.F. |
| | von Lackum, L. S., Oelwein (Great Lakes, Ill.) .....Lt., U.S.N.R. |
| | Voorhees, P. H., Ottumwa (Washington, D. C.) .....U.S.N.R. |
| | Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) .....Lt., U.S.N.R. |
| | Walz, D. V., Le Mars (Sioux Falls, S. D.) .....1st. Lt., U.S.A.F. |
| | Wehrmacher, W. H., Iowa City (Oceanside, Calif.) .....U.S.N.R. |
| | Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.) .....1st. Lt., A.U.S. |
| | *Wilkins, D. S., Iowa City (APO San Francisco, Calif.) .....Capt., A.U.S. |
| | Witte, H. J., Marathon (San Francisco, Calif.) .....Lt. Col., A.U.S. |
| | Young, R. A., Clarion (Ft. Sam Houston, Tex.) .....Capt., A.U.S. |
| | Zeilenga, R. H., Orange City (Madison, Wisc.) .....1st. Lt., U.S.A.F. |

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

COMMITTEE ON HOSPITAL AND PROFESSIONAL RELATIONS

October 12, 1952

The Committee on Hospital and Professional Relations met in the central Office Sunday morning, October 12, 1952 with representatives from Blue Cross, Blue Shield and the Iowa Hospital Association. The problem discussed was the removal of medical services from the Blue Cross contract and their inclusion in the Blue Shield contract. The discussion covered misunderstandings which are now arising because of the Blue Cross Comprehensive 70 contract and the variance between various contracts. Possible solutions were explored and the meeting adjourned on the note that all of those concerned would try to find some solution to the problem.

JOINT MEETING OF THE MEDICAL EXAMINING BOARD COMMITTEE AND THE STATE BOARD OF MEDICAL EXAMINERS

October 16, 1952

The Board of Medical Examiners and the Medical Examining Board Committee of the Iowa State Medical Society met in the central office Thursday morning, October 16, 1952 with the following persons present: Drs. G. V. Caughlan, Council Bluffs; F. R. Peterson, Cedar Rapids; L. F. Hill, Des Moines; C. F. Watts, Marengo; H. E. Farnsworth, Storm Lake; G. H. Scanlon, Iowa City; M. A. Royal, Des Moines; A. D. Woods, State Center; R. D. Bernard and Mr. I. W. Myers of Des Moines.

The meeting was called to order by Dr. Caughlan at 9:15 a.m. Dr. Caughlan explained that a previous meeting of his committee had been held to survey laws in other states and to compare them with the Iowa law. He then asked the Board of Medical Examiners to present the feelings of his committee in regard to the Iowa law. The meeting was turned over to Dr. Woods, former chairman of the Board of Medical Examiners.

Dr. Woods discussed the matter under three heads: the legal facts pertaining to the duties and responsibilities of the Board of Medical Examiners; the problems that have come before the Board in the past few years, and the shortcomings of the Iowa Medical Practice Act.

The Iowa law was compared specifically with the Minnesota and Nebraska laws. Following Dr. Woods presentation, all of those present discussed the Iowa problem. Dr. Hill mentioned the problem of the resident physician. He also mentioned the fact that some foreign students wished to take residency training in this country. It was felt that foreign residents might increase in number.

Financing of the Board was discussed and it was felt that the money allotted was quite inadequate. Dr. Caughlan then called for a vote on certain specific recommendations. Those present voted almost unanimously for these recommendations and Mr. Myers was asked to study them and send a tentative outline of new procedures to the members as soon as possible.

After a study of this tentative proposal, the members will again meet and if it is their wish to try to obtain legislation, Mr. Myers will start work on that before the next session of the Legislature.

The Board of Medical Examiners also issued its

statement of policy about licensure, which reads as follows:

1. Each applicant must present a diploma issued by a medical college, approved by the medical examiners. The medical examiners will accept the approved list of the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges.

2. Each applicant for a license must pass an examination prescribed by the medical examiners in the subjects of anatomy, chemistry, physiology, materia medica and therapeutics, obstetrics, pathology and theory and practice of medicine and surgery. This implies the duty of prescribing an examination. Same may be waived, however, by Section 148.4 wherein the certificate of the National Board of Medical Examiners is accepted in lieu thereof if the Board favors.

3. Each applicant must present to the State Department of Health satisfactory evidence that applicant has completed one year of internship in a hospital approved by the State Board of Medical Examiners. This implies the duty of approving hospitals for internship.

4. Before an applicant shall be considered eligible for examination, he shall give evidence that he has filed his intention of becoming a citizen, in good faith. This requirement is made because the Board feels that the statute imposed upon it the investigation of moral character, and the Board feels that it is a part of moral character for one to have declared his intent to become a citizen and to assume the responsibilities and obligations of citizenship if he desires the privileges of licensure in this state.

COMMITTEE ON RURAL HEALTH

October 24, 1952

The Committee on Rural Health met in the central office on Friday morning, October 24, 1952 with the following persons present: Drs. D. G. Sattler, Kalona; E. A. Larsen, Centerville; B. F. Howar, Webster City, and R. S. Jaggard, Oelwein, together with Mrs. C. C. Inman of the women's division of the Farm Bureau. Dr. Sattler, chairman, asked Mrs. Inman what the committee could do to help the Farm Bureau. Mrs. Inman then delineated several areas in which she felt the medical profession and the Farm Bureau could cooperate to advantage. Both groups favor the voluntary health councils on a local level. Mrs. Inman also said that she would like to have the Medical Society cooperate with the Farm Bureau in putting on a health program in some county. The possibility of sending out a column on health to the county newspapers was also discussed. It was felt such a column might be helpful.

The meeting adjourned in the early afternoon after both groups had arrived at an understanding of channels in which both might cooperate for better rural health in Iowa.

BOARD OF TRUSTEES

November 6, 1952

The Board of Trustees of the Iowa State Medical Society met in the central office Thursday afternoon, November 6, 1952 with the following persons present: Drs. L. A. Coffin, J. W. Billingsley and W. L. Downing of the Board; N. B. Anderson, treasurer, B. T. Whitaker, president, R. N. Larimer, president-elect, Dr.

R. D. Bernard and Mr. Don Taylor. Minutes were read and approved and bills were authorized. Don Taylor's report included mention of the doctor-secretary meetings; the award to be given to the Woodbury County Medical Society for its work on infantile paralysis this summer; the radio press conferences which are pending publicity on the treatment of bulbar polio in Des Moines; his work on the problem of anesthesia in the Blue Cross contract, and the program for the Interprofessional Association.

The Board voted that the Iowa State Medical Society might cooperate with the Polk County Medical Society and the radio and press in Polk County in giving an informal dinner in the new office building at a time to be arranged.

Personnel problems in the office were presented to the Board by Miss McCord with the request that the Trustees consider them and possibly vote upon them at the December meeting. Mr. Taylor and Dr. Bernard spoke along the same general lines.

Mr. Myers discussed the Code of Ethics and what his discussion of it in Minneapolis should be. General matters related to this were also discussed, as was Dr. Scanlon's Loan Fund. Dr. Van Robinson was chosen to serve on the Medicolegal Committee to fill out Dr. Ely's term.

Collection agencies, their advertisements and methods of procedure were the next matter of business and it was decided to place them on a yearly renewal basis, starting January 1, and to obtain from them a statement of their plan of collection before that time. All existing cards of approval are to be canceled as of January 1 and new cards issued.

December 14 was chosen for the next Trustees meeting. The session adjourned at 5:00 p.m.

CLINICAL PATHOLOGIC CONFERENCE

(Continued from page 582)

in the carbonic acid fraction, there will be a decrease in the pH of the blood. Consequently, the patient at that point will have evidence of severe and rapid acidosis.

Barach, in suggesting oxygen therapy for such patients, recommended that oxygen administration be started at a low rate, about one liter per minute by nasal catheter with an increase every third day by one liter per minute until the usual therapeutic rate of about 7 liters per minute is reached. Under these conditions the ratio of the carbonic acid to the plasma bicarbonate will be maintained near 1:20 and there will be a marked increase in the plasma bicarbonate concentration along with the increase in the carbonic acid fraction. The combined increase in these two components will be compensated by increased excretion of chloride in the urine. If one brings about these changes slowly, the increase in the plasma bicarbonate fraction will balance the carbon dioxide retention and the pH of the blood will be maintained in the normal range.

Junior Student: Was the CO_2 combining power taken at a different time than the pH?

Dr. Sheets: No, they were taken at approximately the same time.

Junior Student: I thought that a pH of the blood of 7.2 was incompatible with life.

Dr. Sheets: It is not incompatible with life. When these patients are suddenly placed on therapeutic levels of oxygen by nasal catheters, a number of them will become disoriented and comatose. If oxygen administration is continued at the same concentration, some will be able to make an adequate adjustment of the blood pH and again become rational. That may be what this patient did.

Dr. Henry E. Hamilton, Internal Medicine: How accurate is the blood pH determination in a clinical laboratory?

Dr. Sheets: Probably not entirely accurate. I think it is extremely difficult to obtain accurate pH determinations on the blood. When one does it in the clinical laboratory it is certainly accurate enough to show the trend, but I doubt if it is very accurate beyond the first decimal place.

ACADEMY OF GENERAL PRACTICE

(Continued from page 590)

2. No intervention of third party between physician and patient.

3. Where medical service is to be submitted to control, this control should be exercised by physicians.

4. Freedom of choice of hospital by patient.

5. Freedom of the physician to choose the location and type of his practice.

6. No restriction of medication or mode of treatment by physician except in case of abuse.

7. Appropriate representation of medical profession in every official body dealing with medical care.

8. It is not in the public interest that physicians should be full-time salaried servants of the government or social security bodies.

9. Remuneration of medical services ought not to depend directly on the financial condition of the insurance organization.

10. Any social security or insurance plan must be open to the participation of any licensed physician, and no physician should be compelled to participate if he does not wish to do so.

11. Compulsory health insurance plans should cover only those persons who are unable to make their own arrangements for medical care.

12. There shall be no exploitation of the physician, the physician's services or the public by any person or organization.

Academy of General Practice Insurance Plan

We are pleased to announce that Iowa members of the Academy have been accepted under the new insurance plan. New members will be accepted without examination within 60 days of enrollment.

Formal Postgraduate Credit

The postgraduate meeting of the Page County Medical Society, September 17, 1952 has been assigned a formal credit of two hours.

THE JOURNAL

of the

Iowa State Medical Society



INDEX

Volume XLII • Numbers 1-12

1952



Editor: EVERETT M. GEORGE, M.D., Des Moines

Assistant Editor: JOYCE MEYER, Des Moines

Publication Committee

Lonnie A. Coffin, M.D., Farmington, Trustee

John W. Billingsley, M.D., Newton, Trustee

Wendell L. Downing, M.D., Le Mars, Trustee

Allan B. Phillips, M.D., Des Moines, Secretary

Everett M. George, M.D., Des Moines, Editor *Ex Officio*

A

| | |
|---|----------|
| Abdominal Malformations of the Newborn Requiring Immediate Surgery | |
| Robert T. Tidrick, M.D., and George W. Iwen, M.D., Iowa City..... | 561 |
| ACTH and Cortisone, Psychotic Reactions Associated with Garfield Tournay, M.D., and Jacques S. Gottlieb, M.D., Iowa City..... | 292 |
| Admission to Veterans Administration Hospitals..... | 504 |
| Aged, Physical and Mental Health in the Elizabeth C. Horvath, M.S., and Steven M. Horvath, Ph.D., Iowa City..... | 47 |
| Alcoholism, Treatment of with Antabuse Robert C. Larimer, M.D., Iowa City..... | 400 |
| AMA Annual Meeting..... | 269 |
| AMA Dues for 1952..... | 25 |
| Amebiasis in Iowa: Diagnosis and Treatment Henry E. Hamilton, M.D., and Donald C. Zavala, M.D., Iowa City..... | 1 |
| American Board of Obstetrics and Gynecology..... | 470 |
| American Medical Education Foundation..... | 25 |
| Anesthesia in the Aged Huberta M. Livingstone, M.D., and Norman P. Johnson, M.D., Chicago, Ill..... | 296 |
| Antibiotic Therapy, Current Trends in Wallace E. Herrell, M.D., Rochester, Minn..... | 287 |
| Appendiceal Peritonitis and the "Period of Preparation" 24 | |
| April Cancer Crusade..... | 186 |
| Arteriosclerosis as Seen in Diabetics Arthur G. Lueck, M.D., Des Moines..... | 524 |
| Aseptic Necrosis of Epiphyses Geoffrey W. Bennett, M.D., Oskaloosa..... | 481 |
| Authors— | |
| Amick, Lawrence D..... | 218 |
| Bean, William B..... | 52 |
| Bennett, Geoffrey W..... | 481 |
| Berney, Paul W..... | 10 |
| Betts, Rome A..... | 576 |
| Billings, Edward G..... | 101 |
| Braley, Alson E..... | 106, 519 |
| Brown, Addison W..... | 532 |
| Carr, T. Lyle..... | 394 |
| Cline, Hubert L..... | 446 |
| Cline, John W..... | 43 |
| Comly, Hunter H..... | 565 |
| Conzett, Donald C..... | 245 |
| Crealock, Frank W..... | 251 |
| Crile, George, Jr..... | 12, 389 |
| Douvas, Nicholas G..... | 54 |
| Finch, George H..... | 490 |
| Gottlieb, Jacques S..... | 292 |
| Graham, Walter C..... | 305 |
| Gray, Charles W..... | 402 |
| Gurau, Henry H..... | 256 |
| Hamilton, Henry E..... | 1 |
| Hardin, Robert C..... | 177 |
| Hardwig, Robert P..... | 6 |
| Harkness, Gordon F..... | 571 |
| Herrell, Wallace E..... | 287 |
| Horvath, Elizabeth C..... | 47 |
| Horvath, Steven M..... | 47 |
| Huffman, William C..... | 137 |
| Imler, Robert L..... | 151 |
| Iwen, George W..... | 561 |
| Jackman, Raymond J..... | 435 |
| January, Lewis E..... | 167 |
| Johnson, Norman P..... | 296 |
| Jones, Cecil C..... | 533 |
| Keettel, William C..... | 251 |
| Kimberly, Lester W..... | 221 |
| Kirkendall, Walter M..... | 201 |
| Kos, Clair M..... | 153 |
| Krettek, John E..... | 255 |
| Larimer, Robert C..... | 400 |
| Lierle, Dean M..... | 137 |
| Livingstone, Huberta M..... | 296 |
| Lueck, Arthur G..... | 524 |
| Mark, Milton S..... | 532 |
| Mason, Michael L..... | 248 |
| Matchett, Foster..... | 477 |
| Nellis, Vern F..... | 16 |
| Ober, Frank G..... | 483 |
| Palumbo, Louis T..... | 486 |
| Prewitt, Leland H..... | 412 |
| Randall, John H..... | 148 |
| Rembolt, Raymond R..... | 171 |
| Roth, William F., Jr..... | 94 |
| Russum, Benjamin C..... | 255 |
| Ryan, Charles M..... | 443 |
| Sahs, Adolph L..... | 151, 440 |
| Scharnweber, Henry C..... | 110 |
| Schrock, Christian E..... | 6 |
| Taylor, James H..... | 214 |
| Theilen, Ernest O..... | 167 |
| Tidrick, Robert T..... | 561 |
| Tournay, Garfield..... | 292 |
| Turnbull, Rupert B..... | 12 |
| Turner, Howard V..... | 569 |
| Updegraff, Robert R..... | 205 |
| Updegraff, Thomas R..... | 451 |
| Walker, Glenn L..... | 303 |
| Westdahl, Philip R..... | 43 |

| | |
|-----------------------|-----|
| Whitaker, Ben T..... | 245 |
| Wolfe, Otis D..... | 522 |
| Zavala, Donald C..... | 1 |

B

| | |
|--|--|
| Ballistocardiogram in Cardiac Diagnosis..... | 458 |
| Blue Cross-Blue Shield..... | 73, 121, 190, 234, 272, 379, 425, 465, 509, 549, 589 |
| Board of Medical Examiners Stands on Established Policy 583 | |
| Breast, Common Lesions of the John W. Cline, M.D., and Philip R. Westdahl, M.D., San Francisco, Calif..... | 43 |
| Burns, The Care of Michael L. Mason, M.D., Chicago, Ill..... | 248 |

C

| | |
|---|--|
| Caecum, Foreign Body in the, Causing Symptoms of Acute Appendicitis Henry C. Scharnweber, M.D., Boone..... | 110 |
| Care of Burns, The Michael L. Mason, M.D., Chicago, Ill..... | 248 |
| Care of the Hemiplegic..... | 184 |
| Central Serous Choroidosis Glenn L. Walker, M.D., Iowa City..... | 303 |
| Changing Trends in Surgery of the Colon George Crile, Jr., M.D., and Rupert B. Turnbull, M.D., Cleveland, O..... | 12 |
| Cholinergic Drugs..... | 419 |
| Choroidosis, Central Serous Glenn L. Walker, M.D., Iowa City..... | 303 |
| Civil Defense Administration Openings..... | 231 |
| Clinical Investigation of Tablet Neohydrin, A New Oral Mercurial Diuretic George H. Finch, M.D., Des Moines..... | 490 |
| Clinical Activities Open to Visiting Physicians..... | 200 |
| Clinical Study of Bone Lesions in Malignant Lymphoma James H. Taylor, M.D., Des Moines..... | 214 |
| College of Medicine Clinical Pathologic Conference..... | 17, 58, 111, 179, 222, 260, 306, 497, 535, 577 |
| Colon, Changing Trends in Surgery of the George Crile, Jr., M.D., and Rupert B. Turnbull, M.D., Cleveland, O..... | 12 |
| Comment of Ye Editor Regarding Medical Training and Licensure..... | 418 |
| Common Lesions of the Breast John W. Cline, M.D., and Philip R. Westdahl, M.D., San Francisco, Calif..... | 43 |
| Community Chest..... | 513 |
| Cortisone, Adrenal-Cortical Atrophy and Surgical Deaths..... | 229 |
| County Medical Society Officers..... | 40, 366, 560, 604 |
| Crippled Children, Iowa's Program for Raymond R. Rembolt, M.D., Iowa City..... | 171 |
| Current Trends in Antibiotic Therapy Wallace E. Herrell, M.D., Rochester, Minn..... | 287 |

D

| | |
|---------------------------------|-----|
| Death Notices | |
| Adair, Gael Myerly..... | 387 |
| Angell, Charles A..... | 283 |
| Arthur, William Richard..... | 38 |
| Bellinger, Frank Earl..... | 38 |
| Blair, Fred LeRoy..... | 199 |
| Bowser, William Francis..... | 431 |
| Brown, Gates M..... | 199 |
| Bruechert, Henry Nicholas..... | 387 |
| Buckmaster, Raleigh Ankery..... | 555 |
| Clark, Frank H..... | 387 |
| Crawford, Jennings..... | 38 |
| Dierker, Frank Henry..... | 515 |
| Earl, Warren Zachary..... | 38 |
| Ely, Francis Argyle..... | 555 |
| Freligh, Clarence Neil..... | 387 |
| Galvin, Robert John..... | 199 |
| Gamble, Robert Anderson..... | 38 |
| Gosline, Harold Inman..... | 473 |
| Gould, Isaac L..... | 85 |
| Hamilton, Harriet Spera..... | 387 |
| Hanson, Frank Herbert..... | 473 |
| Heetland, Louis Herman..... | 283 |
| Holman, Henry D..... | 387 |
| Huston, Herbert Marc..... | 283 |
| Jarvis, Fred J..... | 131 |
| Jeans, Philip Charles..... | 595 |
| Johnson, Aldis Adelbert..... | 595 |
| Johnston, William H..... | 85 |
| Junger, Emil Carl..... | 38 |
| King, David Hendric..... | 473 |
| LaForce, Edward Francis..... | 131 |
| Laidley, Wallace Gilmour..... | 555 |
| Lauder, Frank T..... | 243 |
| Leith, George Guyford..... | 85 |
| Lock, Arthur Lincoln..... | 596 |
| Loose, David N..... | 131 |
| Luehrsmann, Bernard H..... | 38 |
| McClure, Ernest Covey..... | 387 |
| McGready, Joseph Hugh..... | 387 |
| McPherrin, Henry Irl..... | 283 |
| Meggars, Edward Charles..... | 555 |
| Mol, Henry L..... | 387 |
| Oesterlin, Ernst Julius..... | 432 |
| Okerlin, Oscar William..... | 515 |

| | |
|--|-----|
| Parker, Edward Stuart..... | 596 |
| Powell, Burke..... | 555 |
| Rambo, Cyrus Cleveland..... | 555 |
| Reed, Guy Pace..... | 387 |
| Ryan, Granville Nimrod..... | 473 |
| Schultz, Walter Henry..... | 596 |
| Seidler, William A..... | 86 |
| Shine, Dan William..... | 515 |
| Siberts, Frank L..... | 38 |
| Simons, James Daniel..... | 244 |
| Sollis, Delmar Bryant..... | 556 |
| Somers, Pearl Ellsworth..... | 244 |
| Stolley, Robert J..... | 387 |
| Talley, Louis Franklin..... | 556 |
| Tyrell, Joseph Walter..... | 199 |
| Van Zanten, William..... | 131 |
| Walvoord, William W..... | 515 |
| West, William Walter..... | 473 |
| Wilkinson, George W..... | 131 |
| Wilson, Fred C..... | 387 |
| Wolcott, William Eugene..... | 556 |
| Woods, Hugh Bechtel..... | 38 |
| Wyland, Asa O..... | 284 |
| Depression, Psychosomatic Aspects of | |
| William F. Roth, Jr., M.D., Kansas City, Kan..... | 94 |
| Detection and Diagnosis of Retardation in Childhood | |
| Howard V. Turner, M.D., Des Moines..... | 569 |
| Diabetes and Pregnancy | |
| Addison W. Brown, M.D., and | |
| Milton S. Mark, M.D., Des Moines..... | 532 |
| Diabetes Mellitus and Osteoporosis: Report of a Case | |
| Paul W. Berney, M.D., Cedar Rapids..... | 10 |
| Diabetes Week, November 16 Through 22, 1952..... | 553 |
| Diabetics, Arteriosclerosis as Seen in | |
| Arthur G. Lueck, M.D., Des Moines..... | 524 |
| Diagnosis and Management of Thyroid Disease | |
| T. Lyle Carr, M.D., and | |
| Members of the Thyroid Clinic, Iowa City..... | 394 |
| Disc Herniations, Intervertebral, in the Thoracic Region | |
| Robert L. Imler, M.D., and | |
| Adolph L. Sabs, M.D., Iowa City..... | 151 |
| Don't Obligate Yourself for Incorrect Prescriptions for | |
| Veterans..... | 541 |
| Dream Realized, A..... | 457 |

E

| | |
|--|-----|
| Ear, The Problem of the Chronic | |
| Thomas R. Updegraff, M.D., Waterloo..... | 451 |
| Easter Seal Drive..... | 118 |
| Editorials— | |
| Admission to Veterans Administration Hospitals..... | 504 |
| AMA Annual Meeting..... | 269 |
| AMA Dues for 1952..... | 25 |
| American Medical Education Foundation..... | 25 |
| Appendiceal Peritonitis and the "Period of Preparation"..... | 24 |
| April Cancer Crusade..... | 186 |
| Ballistocardiogram in Cardiac Diagnosis..... | 458 |
| Board of Medical Examiners Stands on Established | |
| Policy..... | 583 |
| Care of the Hemiplegic..... | 184 |
| Cholinergic Drugs..... | 419 |
| Comment of Ye Editor Regarding Medical Training and | |
| Licensure..... | 418 |
| Community Chest..... | 513 |
| Cortisone, Adrenal-Cortical Atrophy and Surgical | |
| Deaths..... | 229 |
| Dream Realized, A..... | 457 |
| Don't Obligate Yourself for Incorrect Prescriptions for | |
| Veterans..... | 541 |
| Easter Seal Drive..... | 118 |
| Executive Council Initiates Action Against Inclusion | |
| of Medical Services in Hospital Service Contracts..... | 541 |
| General Practitioner's Award..... | 65 |
| Good Citizenship..... | 230 |
| High Cost of Hospitalized Medical Care, The..... | 457 |
| Highlights of the American Medical Association Meeting | |
| in Los Angeles..... | 26 |
| Highlights of AMA Public Relations Institute..... | 542 |
| How Many Man Hours in a Year?..... | 229 |
| Idiopathic Ventricular Tachycardia..... | 268 |
| Importance of Blood in the Digestive Tract..... | 117 |
| Improved Laboratory Diagnosis of Amebiasis..... | 312 |
| Inner Ear Mechanics..... | 504 |
| Insurance Creates Problems..... | 311 |
| Intraocular Lenses..... | 230 |
| Iowa Doctors Are Too Modest..... | 117 |
| Iowa's Outstanding General Practitioner for 1952..... | 269 |
| ISMS Bulletins..... | 67 |
| Journal of the Student American Medical Association..... | 186 |
| July Journal..... | 280 |
| Limitation on Medical Grants for Old Age Assistance | |
| Recipients..... | 185 |
| Lipotropics as Invaluable Therapeutic Agents, The..... | 66 |
| Manual Artificial Respiration..... | 65 |
| National Fund for Medical Education Announces Grant..... | 468 |
| New Editorial Assistant..... | 311 |
| New Iowa City Veterans Hospital..... | 186 |
| Office Plaque..... | 24 |
| Our Official Issue..... | 311 |
| Physicians Who Received Merit Awards for Long and | |
| Faithful Service to Medicine..... | 268 |
| Postelection Harmony..... | 583 |

| | |
|---|-----|
| Preceptor Program for Next Year, The..... | 457 |
| Should County Societies Provide Indoctrination | |
| Courses?..... | 584 |
| Some Information About Our Annual Meeting..... | 117 |
| State Society Will Build a Headquarters Home, The..... | 184 |
| Student Looks at General Practice, A..... | 503 |
| Toxic Effects of Certain Detergents..... | 541 |
| Tuberculosis..... | 584 |
| University Announces the Establishment of a Preceptor | |
| System, The..... | 65 |
| University of Iowa Issue, The..... | 184 |
| Vocational Rehabilitation of the Disabled..... | 313 |
| Whose Interests is the Board of Medical Examiners | |
| Safeguarding?..... | 266 |
| World Health Day..... | 231 |
| World Medical Association..... | 313 |
| World Medical Association..... | 418 |
| 1952 Annual Meeting, The..... | 267 |
| 1952 Is Here..... | 24 |
| Elaboration of Medical Ethics by the Iowa State Medical | |
| Society..... | 119 |
| Eli Lilly & Company Aids Flood Victims..... | 277 |
| Endocarditis, The Treatment of Subacute Bacterial | |
| Lewis E. January, M.D., and | |
| Ernest O. Theilen, M.D., Iowa City..... | 167 |
| Epiphyses, Aseptic Necrosis of | |
| Geoffrey W. Bennett, M.D., Oskaloosa..... | 481 |
| Esotropia, Management of Convergent Strabismus | |
| Alson E. Braley, M.D., Iowa City..... | 106 |
| Essential Hypertension, Recent Developments in Thera- | |
| py for | |
| Walter M. Kirkendall, M.D., Iowa City..... | 201 |
| Executive Council Initiates Action Against Inclusion of | |
| Medical Services in Hospital Service Contracts..... | 541 |
| External Otitis, A Specific Disease Entity | |
| Hubert L. Cline, M.D., Aurora, Colo..... | 446 |
| Eye, Ear, Nose and Throat, Therapeutic Trends in | |
| Cecil C. Jones, M.D., Des Moines..... | 533 |
| Eye Manifestations of Head Injuries | |
| Henry M. Gurau, M.D., Des Moines..... | 256 |

F

| | |
|--|-----|
| Facial Lacerations, Treatment of | |
| William C. Huffman, M.D., and | |
| Dean M. Lierle, M.D., Iowa City..... | 137 |
| Fifty Year Club Members..... | 363 |
| Fistulas, Rectovaginal and Anovaginal: A Surgical Pro- | |
| cedure for Treatment of Certain Types | |
| Raymond J. Jackman, M.D., Rochester, Minn..... | 435 |
| Fluid Therapy, Rational, in Daily Practice | |
| Charles M. Ryan, M.D., Sioux City..... | 443 |
| Foreign Body in the Caecum Causing Symptoms of Acute | |
| Appendicitis | |
| Henry C. Sharnweber, M.D., Boone..... | 110 |

G

| | |
|---|-----|
| Gastrointestinal Disorders, Psychiatric Aspects of | |
| Edward C. Billings, M.D., Denver, Colo..... | 101 |
| General Manager's Page | |
|28, 70, 120, 189, 233, 271, 314, 420, 460, 506, 546, 586 | |
| General Practitioner's Award..... | 65 |
| Glaucoma and Cataract | |
| Otis D. Wolfe, M.D., Marshalltown..... | 522 |
| Glaucoma, Patient, Medical Responsibility to the | |
| Alson E. Braley, M.D., Iowa City..... | 519 |
| Good Citizenship..... | 230 |

H

| | |
|--|-----|
| Head Injuries, Eye Manifestations of | |
| Henry H. Gurau, M.D., Des Moines..... | 256 |
| Health Agency, A Voluntary | |
| Rome A. Betts, New York, N. Y..... | 576 |
| High Cost of Hospitalized Medical Care, The..... | 457 |
| High Dilution Therapy in the Use of Histamine and | |
| Staphylococcus Toxoid in the Practice of Otolaryn- | |
| gology and Ophthalmology | |
| Leland H. Prewitt, M.D., Ottumwa..... | 412 |
| Highlights of the American Medical Association Meeting | |
| in Los Angeles..... | 26 |
| Highlights of AMA Public Relations Institute..... | 542 |
| Histamine and Staphylococcus Toxoid, High Dilution | |
| Therapy in the Practice of Otolaryngology and Ophthal- | |
| mology | |
| Leland H. Prewitt, M.D., Ottumwa..... | 412 |
| History of Medicine in Iowa..... | 463 |
| How Many Man Hours in a Year?..... | 229 |
| Hypoglycemia, Spontaneous: The Use of a Provocative | |
| Insulin Test | |
| Robert P. Hardwig, M.D., and | |
| Christian E. Schrock, M.D., Waverly..... | 6 |

I

| | |
|---|-----|
| Idiopathic Ventricular Tachycardia..... | 268 |
| Importance of Blood in the Digestive Tract..... | 117 |
| Importance of Life Planning, The | |
| Vern F. Nellis, Waterloo..... | 16 |
| Improved Laboratory Diagnosis of Amebiasis..... | 312 |
| Inner Ear Mechanics..... | 504 |
| Insurance Creates Problems..... | 311 |

| | | | |
|---|------------------------------|--|-----|
| Intervertebral Disc Herniations in the Thoracic Region Robert L. Imler, M.D., and Adolph L. Sahs, M.D., Iowa City..... | 151 | Otosclerosis, The Management of Patients Whose Hearing Loss Is Due to Clair M. Kos, M.D., Iowa City..... | 153 |
| Intraocular Lenses..... | 230 | Our Official Issue..... | 311 |
| Iowa Academy of General Practice.....35, 80, 127, 196, 241, 281, 380, 427, 466, 510, 550, 590 | | P | |
| Iowa Doctors Are Too Modest..... | 117 | Persistent Occiput Posterior John H. Randall, M.D., Iowa City..... | 148 |
| Iowa State Medical Society Officers and Committees, 1951-1952..... | 41, 133 | Physical and Mental Health in the Aged Elizabeth C. Horvath, M.S., and Steven M. Horvath, Ph.D., Iowa City..... | 47 |
| Iowa State Medical Society Officers and Committees, 1952-1953..... | 285, 364, 433, 475, 517, 558 | Physicians Who Received Merit Awards for Long and Faithful Service to Medicine..... | 268 |
| Iowa State Society of Medical Technologists..... | 553 | "Pituitrin" Shock, Sudden Death from John E. Krettek, M.D., Council Bluffs, and Benjamin C. Russum, M.D., Omaha, Neb..... | 255 |
| Iowa's Outstanding General Practitioner for 1952..... | 269 | Place of Version and Extraction in Present Day Obstet- rics, The William C. Keettel, M.D., and Frank W. Crealock, M.D., Iowa City..... | 251 |
| Iowa's Program for Crippled Children Raymond R. Rembolt, M.D., Iowa City..... | 171 | Postelection Harmony..... | 583 |
| ISMS Bulletins..... | 65 | Practical Aids in Neurologic Diagnosis Adolph L. Sahs, M.D., Iowa City..... | 440 |
| J | | Preceptor Instruction..... | 67 |
| Journal Book Shelf.....36, 81, 128, 197, 242, 282, 384, 428, 467, 511, 551, 591 | | Preceptor Program for Next Year, The..... | 457 |
| Journal Deadline Change..... | 116 | Pregnancy, and Diabetes Addison W. Brown, M.D., and Milton S. Mark, M.D., Des Moines..... | 532 |
| Journal of the Student American Medical Association..... | 186 | Present Status of Treatment of Diseases of the Thyroid Gland George Crile, Jr., M.D., Cleveland, O..... | 389 |
| July Journal..... | 280 | President-Elect's Address Ben T. Whitaker, M.D., Boone..... | 245 |
| K | | President's Address Donald C. Conzett, M.D., Dubuque..... | 245 |
| Kansas City Southwest Clinical Society Awards..... | 240 | President's Page.....27, 69, 188, 232, 270, 459, 505, 545, 585 | |
| L | | Problem of the Chronic Ear, The Thomas R. Updegraff, M.D., Waterloo..... | 451 |
| Life Planning, Importance of Vern F. Nellis, Waterloo..... | 16 | Program, One Hundred First Meeting, Iowa State Medical Society..... | 87 |
| Limitation on Medical Grants for Old Age Assistance Recipients..... | 185 | Program, Twenty-Third Annual Meeting, Woman's Aux- iliary..... | 122 |
| Lipotropics as Invaluable Therapeutic Agents, The..... | 66 | Psychiatric Aspects of Gastrointestinal Disorders Edward G. Billings, M.D., Denver, Colo..... | 101 |
| Lymphoma, Malignant, A Clinical Study of Bone Lesions in James H. Taylor, M.D., Des Moines..... | 214 | Psychogenic Constipation, Treatment of in Young Chil- dren Hunter H. Comly, M.D., Iowa City..... | 565 |
| M | | Psychosomatic Aspects of Depression William F. Roth, Jr., M.D., Kansas City, Kan..... | 94 |
| Management of Convergent Strabismus Esotropia Alson E. Braley, M.D., Iowa City..... | 106 | Psychotic Reactions Associated With ACTH and Cortisone Garfield Tournay, M.D., and Jacques S. Gottlieb, M.D., Iowa City..... | 292 |
| Management of Patients Whose Hearing Loss is Due to Otosclerosis Clair M. Kos, M.D., Iowa City..... | 153 | Pyogenic Skin Infections, The Treatment of, with Topical Neomycin Lester W. Kimberly, M.D., Davenport..... | 221 |
| Manual Artificial Respiration..... | 65 | R | |
| Manuscript Editing Service Established..... | 186 | Rational Fluid Therapy in Daily Practice Charles M. Ryan, M.D., Sioux City..... | 443 |
| Marriage Announcements.....85, 130, 515 | | Recent Advances in Otolaryngology Robert R. Updegraff, M.D., Iowa City..... | 205 |
| Maxillary Sinusitis Gordon F. Harkness, M.D., Davenport..... | 571 | Recent Developments in Ocular Therapeutics Nicholas G. Douvas, M.D., Iowa City..... | 54 |
| Medical Licenses.....68, 240, 548 | | Recent Developments in Therapy for Essential Hyperten- sion Walter M. Kirkendall, M.D., Iowa City..... | 201 |
| Medical Responsibility to the Glaucoma Patient Alson E. Braley, M.D., Iowa City..... | 519 | Rectovaginal and Anovaginal Fistulas: A Surgical Pro- cedure for Treatment of Certain Types Raymond J. Jackman, M.D., Rochester, Minn..... | 435 |
| Meeting of the Board of Trustees..... | 417 | Regional Postgraduate Courses..... | 496 |
| Members of the Iowa State Medical Society, from the Executive Committee, College of Medicine..... | 135 | Remarks on Sudden Death William B. Bean, M.D., Iowa City..... | 52 |
| Membership Roster of the Iowa State Medical Society.... | 367 | Resection in the Treatment of Pulmonary Tuberculosis Charles W. Gray, M.D., Ottumwa..... | 402 |
| Mental Health in the Aged, and Physical Elizabeth C. Horvath, M.S., and Steven M. Horvath, Ph.D., Iowa City..... | 47 | Retardation in Childhood, The Detection and Diagnosis of Howard V. Turner, M.D..... | 569 |
| Mid-West Clinical Assembly..... | 513 | Rocky Mountain Cancer Conference..... | 196 |
| Minutes of Meetings of State Society Officers and Com- mittees.....39, 82, 186, 237, 277, 383, 422, 557, 597 | | Roster of Iowa Physicians in Military Service.....38, 86, 131, 199, 244, 284, 387, 432, 473, 515, 556, 596 | |
| Minutes of the House of Delegates to the American Med- ical Association..... | 421 | S | |
| Multiple Sclerosis..... | 531 | Scientific Exhibits at Annual Meeting..... | 228 |
| Multiple Myeloma in General Practice Lawrence D. Amick, M.D., Sac City..... | 218 | Sectional Meeting of American College of Surgeons..... | 132 |
| N | | Shall I Call an Orthopedist? Foster Matchett, M.D., Denver, Colo..... | 477 |
| National Conference on Medical Service..... | 79 | Should County Societies Provide Indoctrination Courses?.. | 584 |
| National Fund for Medical Education Announces Grant.... | 468 | Shoulder Syndrome, The Frank G. Ober, M.D., Burlington..... | 483 |
| National Medical Technologists Convention..... | 191 | Sinusitis, Maxillary Gordon F. Harkness, M.D., Davenport..... | 571 |
| Neurologic Diagnosis, Practical Aids in Adolph L. Sahs, M.D., Iowa City..... | 440 | Society Proceedings— Adams..... | 471 |
| Newborn, Abdominal Malformations of the, Requiring Immediate Surgery Robert T. Tidrick, M.D., and George W. Iwen, M.D., Iowa City..... | 561 | Audubon..... | 431 |
| New Editorial Assistant..... | 311 | Black Hawk.....37, 83, 129, 198, 243, 283, 386, 431, 514, 594 | |
| New Iowa City Veterans Hospital..... | 186 | Boone.....83, 129, 386 | |
| News Notes from the Committee on Medical Service.....29, 71 | | Buena Vista.....83 | |
| New Veterans Hospital, The Robert C. Hardin, M.D., Iowa City..... | 177 | Calhoun.....83, 129 | |
| O | | Carroll.....83 | |
| Obstetrics, The Place of Version and Extraction in Present Day William C. Keettel, M.D., and Frank W. Crealock, M.D., Iowa City..... | 251 | Cass.....83, 283 | |
| Occiput Posterior, The Persistent John H. Randall, M.D., Iowa City..... | 148 | Cerro Gordo.....129, 198 | |
| Ocular Therapeutics, Recent Developments in Nicholas G. Douvas, M.D., Iowa City..... | 54 | Clayton.....37, 554 | |
| Office Plaque..... | 24 | | |
| Orthopedist, Shall I Call an Foster Matchett, M.D., Denver, Colo..... | 477 | | |
| Osteoporosis and Diabetes Mellitus: Report of a Case Paul W. Berney, M.D., Cedar Rapids..... | 10 | | |
| Otolaryngology, Recent Advances in Robert R. Updegraff, M.D., Iowa City..... | 205 | | |

| | |
|---|--|
| Clinton | 83, 129, 283 |
| Dallas-Guthrie | 129 |
| Delaware | 386, 471 |
| Dubuque | 37, 83, 129, 283, 514 |
| Fayette | 83 |
| Hardin | 594 |
| Harrison | 129 |
| Henry | 594 |
| Iowa | 243 |
| Jackson | 129 |
| Jefferson | 83, 198 |
| Johnson | 129, 386 |
| Linn | 386, 554, 594 |
| Louisa | 283 |
| Mahaska | 129 |
| Marion | 83 |
| Marshall | 37, 83 |
| Monroe | 130 |
| Muscatine | 130 |
| O'Brien | 130 |
| Page | 83, 554, 594 |
| Palo Alto | 198 |
| Pocahontas | 83 |
| Polk | 37, 83, 130, 198, 243, 554, 594 |
| Pottawattamie | 83, 594 |
| Poweshiek | 83 |
| Sac | 554, 594 |
| Scott | 198, 431, 514, 554, 594 |
| Shelby | 83 |
| Sioux Valley | 79 |
| Southwestern Iowa | 37, 431 |
| Story | 386 |
| Upper Des Moines Valley Medical Society | 471 |
| Wapello | 243, 514, 554, 594 |
| Warren | 37 |
| Washington | 37, 83, 198, 243, 595 |
| Webster | 37, 83 |
| Winnebuck | 83 |
| Woodbury | 37, 83, 130, 243, 386, 431, 471, 514, 554, 595 |
| Wright | 83, 283 |
| Some Information About Our Annual Meeting | 117 |
| Speakers Bureau Radio Schedule | 34, 76, 132, 191, 231, 265, 388, 426, 464, 508, 544, 588 |
| Spontaneous Hypoglycemia: The Use of a Provocative Insulin Test | |
| Robert P. Hardwig, M.D., and Christian E. Schrock, M.D., Waverly | 6 |
| State Department of Health | 33, 77, 126, 194, 238, 278, 381, 429, 469, 512, 553, 592 |
| State Society Will Build a Headquarters Home, The | 184 |
| Student Looks at General Practice, A | 503 |
| Sudden Death From "Pituitrin" Shock | |
| John E. Krettek, M.D., Council Bluffs, and Benjamin C. Russum, M.D., Omaha, Neb. | 255 |
| Sudden Death, Remarks on | |
| William B. Bean, Iowa City | 52 |
| Sympathectomy, Results of, Thromboangiitis Obliterans: | |
| Louis T. Palumbo, M.D., Des Moines | 486 |
| Syndrome, The Shoulder | |
| Frank G. Ober, M.D., Burlington | 483 |
| T | |
| Tablet Neohydrin, Clinical Investigations of a New Oral Mercurial Diuretic | |
| George H. Finch, M.D., Des Moines | 490 |
| Technical Exhibits | 191 |
| Television Schedule | 76, 132, 191, 237, 277, 296, 426, 464, 508, 534, 593 |
| Tendon Transfers in the Forearm and Hand | |
| Walter C. Graham, M.D., Santa Barbara, Calif. | 305 |
| Therapeutic Trends in Eye, Ear, Nose and Throat | |
| Cecil C. Jones, M.D., Des Moines | 533 |
| Thoracic Region, Intervertebral Disc Herniations in the | |
| Robert L. Imler, M.D., and Adolph L. Sahs, M.D., Iowa City | 151 |
| Thromboangiitis Obliterans: Results of Sympathectomy | |
| Louis T. Palumbo, M.D., Des Moines | 486 |
| Thyroid Disease, Diagnosis and Management | |
| T. Lyle Carr, M.D., and Members of the Thyroid Clinic, Iowa City | 394 |
| Thyroid Gland, Present Status of Treatment of Diseases of the | |
| George Crile, Jr., M.D., Cleveland, O. | 389 |
| Toxic Effects of Certain Detergents | 541 |
| Transactions of the House of Delegates, 1952 Session | 315 |
| Treatment of Alcoholism With Antabuse, The | |
| Robert C. Larimer, M.D., Iowa City | 400 |
| Treatment of Facial Lacerations, The | |
| William C. Huffman, M.D., and Dean M. Lierle, M.D., Iowa City | 137 |
| Treatment of Psychogenic Constipation in Young Children, The | |
| Hunter H. Comly, M.D., Iowa City | 565 |
| Treatment of Pyogenic Skin Infections With Topical Neomycin, The | |
| Lester W. Kimberly, M.D., Davenport | 221 |
| Treatment of Subacute Bacterial Endocarditis | |
| Lewis E. January, M.D., and Ernest O. Theilen, M.D., Iowa City | 167 |
| Tuberculosis | 584 |
| Tuberculosis, Resection in the Treatment of Pulmonary | |
| Charles W. Gray, M.D., Ottumwa | 402 |

| | |
|---|--|
| U | |
| University Announces the Establishment of a Preceptor System, The | 65 |
| University of Iowa Issue, The | 184 |
| Urology Award | 508 |
| V | |
| VA Course in Psychiatry and Neurology | 502 |
| Vocational Rehabilitation of the Disabled | 313 |
| Voluntary Health Agency, A | |
| Rome A. Betts, New York, N. Y. | 576 |
| W | |
| Whose Interests is the Board of Medical Examiners Safeguarding? | 266 |
| Winners of Golf Tournament | 265 |
| Woman's Auxiliary News | 31, 74, 123, 192, 235, 273, 377, 423, 461, 507, 547, 587 |
| World Health Day | 231 |
| World Medical Association | 313, 418 |
| X-Y-Z | |
| 1952 Annual Meeting, The | 267 |
| 1952 Is Here | 24 |

Buy Christmas Seals

October 23 marked the fiftieth anniversary of the adoption of the double-barred cross as the international symbol of the crusade against tuberculosis. Tremendous progress has been made in decreasing the death rate from the disease. Es-

pecially has Iowa been able to show the lowest death rate in the nation. For instance, in 1950 the rate for the United States was 71 per 100,000, while in Iowa, the rate was down to 32.5 per cent.

Tuberculosis workers, however, contend that "tuberculosis is not controlled in Iowa." They say that "people who think the battle against tuberculosis in Iowa has been

Help Fight TB



Buy Christmas Seals

won just because the death rate from the disease is reaching a new low, are allowing themselves to become complacent and apathetic." It is true that tuberculosis was the only contagious disease among Iowa's leading "killers" last year when it was twelfth on the list.

The point is that the death rate does not give a clear picture of the tuberculosis problem. The question is, are the number of reported cases declining at the same rate as are the deaths from the disease? Tuberculosis is now a problem of reducing case numbers instead of death rates only. It still necessitates an efficient case finding program.

In order to give continued support to the case finding program here in the state, "buy Christmas Seals." No direct personal solicitation is made for funds to finance the TB program. The major portion of the budget is raised directly through the mail sale of Christmas Seals. The Seals you buy will help lower the incidence by making early diagnosis more generally possible.

COUNTY MEDICAL SOCIETY OFFICERS

| COUNTY | PRESIDENT | SECRETARY | DEPUTY COUNCILOR |
|-------------------------|---------------------------------------|-------------------------------------|--|
| Adair..... | R. E. Wiley, Fontanelle..... | A. S. Bowers, Orient..... | A. S. Bowers, Orient |
| Adams..... | C. L. Bain, Corning..... | J. C. Nolan, Corning..... | A. W. Brunk, Prescott |
| Allamakee..... | M. F. Kiesau, Postville..... | R. R. Jefferies, Waukon..... | J. W. Thornton, Lansing |
| Appanoose..... | E. A. Larsen, Centerville..... | C. F. Brummitt, Centerville..... | E. A. Larsen, Centerville |
| Audubon..... | H. K. Merselis, Audubon..... | A. B. Cloud, Audubon..... | L. E. Jensen, Audubon |
| Benton..... | L. W. Koontz, Vinton..... | N. C. Knosp, Belle Plaine..... | N. C. Knosp, Belle Plaine |
| Black Hawk..... | C. N. Cooper, Waterloo..... | G. D. Phelps, Waterloo..... | C. D. Ellyson, Waterloo |
| Boone..... | R. E. Gunn, Boone..... | A. W. Puntenney, Boone..... | H. C. Scharnweber, Boone |
| Bremer..... | H. W. Rathe, Waverly..... | R. P. Hardwig, Waverly..... | F. R. Sparks, Waverly |
| Buchanan..... | J. W. Barrett, Jr., Independence..... | J. F. Loeck, Independence..... | J. F. Loeck, Independence |
| Buena Vista..... | R. J. Mattice, Sioux Rapids..... | E. Shea, Storm Lake..... | H. E. Farnsworth, Storm Lake |
| Butler..... | M. D. Enna, Dumont..... | F. F. McKean, Allison..... | B. Ensley, Shell Rock |
| Calhoun..... | G. S. Rost, Lake City..... | P. Ferguson, Lake City..... | J. H. Faust, Manson |
| Carroll..... | A. R. Anneberg, Carroll..... | J. M. Tierney, Carroll..... | J. R. Martin, Carroll |
| Cass..... | R. H. Moe, Griswold..... | J. F. Moriarty, Atlantic..... | W. F. Giegerich, Atlantic |
| Cedar..... | H. E. O'Neal, Tipton..... | O. E. Kruse, Tipton..... | P. M. Hoffman, Tipton |
| Cerro Gordo..... | S. Brownstone, Clear Lake..... | G. I. Tice, Mason City..... | L. W. Swanson, Mason City |
| Cherokee..... | J. H. Wise, Cherokee..... | D. C. Koser, Cherokee..... | C. E. Broderick, Cherokee |
| Chickasaw..... | A. L. Murphey, Fredericksburg..... | J. H. Ahrens, New Hampton..... | P. E. Gardner, New Hampton |
| Clarke..... | C. R. Harken, Osceola..... | H. N. Boden, Osceola..... | H. E. Stroy, Osceola |
| Clay..... | | G. F. Fieselmann, Spencer..... | C. C. Jones, Spencer |
| Clayton..... | T. W. Lichter, Edgewood..... | A. R. Powell, Elkader..... | P. R. V. Hommel, Elkader |
| Clinton..... | E. T. Carey, Clinton..... | M. E. Barrent, Clinton..... | R. F. Luse, Clinton |
| Crawford..... | J. M. Hennessey, Manilla..... | J. J. Gleeson, Vail..... | R. M. Johnson, Denison |
| Dallas-Guthrie..... | A. G. Felter, Van Meter..... | W. C. Wildberger, Perry..... | C. A. Nicoll, Panora and A. M. Cochrane, Adel |
| Davis..... | R. Schoonover, Bloomfield..... | H. C. Young, Bloomfield..... | |
| Decatur..... | T. R. Viner, Leon..... | G. W. Swanson, Lamoni..... | W. N. Doss, Leon |
| Delaware..... | R. E. Clark, Manchester..... | J. E. Tyrrell, Manchester..... | W. J. Willett, Manchester |
| Des Moines..... | H. Eastburn, Burlington..... | J. F. Sulzbach, Burlington..... | F. G. Ober, Burlington |
| Dickinson..... | P. A. Scott, Spirit Lake..... | R. F. Wolcott, Spirit Lake..... | T. L. Ward, Arnolds Park |
| Dubuque..... | E. T. Thorsness, Dubuque..... | M. S. Lagen, Dubuque..... | D. F. Ward, Dubuque |
| Emmet..... | L. E. Collins, Estherville..... | E. K. Vauhel, Estherville..... | C. S. Kirkegaard, Estherville |
| Fayette..... | L. E. Ketner, Oelwein..... | A. F. Grandinetti, Oelwein..... | |
| Floyd..... | H. A. Tolliver, Charles City..... | E. V. Ayers, Charles City..... | R. A. Fox, Charles City |
| Franklin..... | W. L. Randall, Hampton..... | R. T. Day, Hampton..... | W. L. Randall, Hampton |
| Fremont..... | R. Lovelady, Sidney..... | A. E. Wanamaker, Hamburg..... | R. Lovelady, Sidney |
| Greene..... | M. H. Brinker, Jefferson..... | E. D. Thompson, Jefferson..... | M. H. Brinker, Jefferson |
| Grundy..... | | W. K. Kienzie, Wellsburg..... | E. A. Reedholm, Grundy Center |
| Hamilton..... | O. C. Buxton, Webster City..... | W. B. McGahey, Webster City..... | B. F. Howar, Webster City |
| Hancock-Winnebagos..... | T. J. Irish, Forest City..... | A. H. Dulmes, Klemme..... | C. V. Hamilton, Garner |
| Hardin..... | R. A. Eckberg, Hubbard..... | F. N. Cole, Iowa Falls..... | L. F. Parker, Iowa Falls |
| Harrison..... | Hans Hansen, Logan..... | B. E. Kenney, Woodbine..... | F. A. Hanson, Magnolia |
| Henry..... | J. R. Beebe, Mt. Pleasant..... | J. G. Widmer, Wayland..... | J. R. Beebe, Mt. Pleasant |
| Howard..... | C. A. Field, Cresco..... | M. E. Henslin, Cresco..... | P. A. Nierling, Cresco |
| Humboldt..... | J. H. Coddington, Humboldt..... | R. W. Beardsley, Livermore..... | I. T. Schultz, Humboldt |
| Ida..... | E. H. Heilman, Ida Grove..... | J. B. Dressler, Ida Grove..... | M. W. Grubb, Galva |
| Iowa..... | G. W. Howe, Marengo..... | I. J. Sinn, Williamsburg..... | C. F. Watts, Marengo |
| Jackson..... | J. A. Broman, Maquoketa..... | W. C. Zabloudil, Preston..... | F. J. Swift, Maquoketa |
| Jasper..... | J. R. Singer, Newton..... | L. H. Koelling, Newton..... | J. W. Ferguson, Newton |
| Jefferson..... | L. D. James, Fairfield..... | J. W. Castell, Fairfield..... | R. A. McGuire, Fairfield |
| Johnson..... | J. W. Dulin, Iowa City..... | E. J. Boyd, Iowa City..... | G. C. Albright, Iowa City |
| Jones..... | C. R. Smith, Wyoming..... | R. W. Myers, Monticello..... | T. M. Redmond, Anamosa |
| Keokuk..... | A. M. Harwood, Sigourney..... | J. Maxwell, What Cheer..... | D. L. Grothaus, Delta |
| Kossuth..... | J. N. Kenefick, Algona..... | J. M. Schutter, Algona..... | J. G. Clapsaddle, Burt |
| Lee..... | G. C. McGinnis, Ft. Madison..... | W. B. Kasiske, Keokuk..... | F. L. Feightner, Ft. Madison L. C. Pumphrey, Keokuk |
| Linn..... | E. H. Files, Cedar Rapids..... | W. K. Cooper, Cedar Rapids..... | |
| Louisia..... | E. S. Groben, Columbus Jct..... | J. H. Chittum, Wapello..... | J. H. Chittum, Wapello |
| Lucas..... | A. L. Yocom, Chariton..... | R. E. Anderson, Chariton..... | R. E. Anderson, Chariton |
| Lyon..... | A. C. Wubbena, Rock Rapids..... | S. H. Cook, Rock Rapids..... | S. H. Cook, Rock Rapids |
| Madison..... | G. J. Anderson, Winterset..... | P. F. Chesnut, Winterset..... | C. B. Hickenlooper, Winterset |
| Mahaska..... | R. M. Collison, Oskaloosa..... | G. S. Atkinson, Oskaloosa..... | E. B. Wilcox, Oskaloosa |
| Marion..... | D. A. Mater, Knoxville..... | W. W. Bourke, Knoxville..... | H. L. Bridgeman, Knoxville |
| Marshall..... | B. M. Biersborn, State Center..... | H. E. Sauer, Marshalltown..... | R. C. Carpenter, Marshalltown |
| Mills..... | W. A. DeYoung, Glenwood..... | T. E. Shonka, Malvern..... | T. E. Shonka, Malvern |
| Mitchell..... | C. F. Watson, Stacyville..... | R. B. Isham, Osage..... | J. O. Eiel, Osage |
| Monona..... | J. L. Garred, Whiting..... | P. L. Wolpert, Onawa..... | C. W. Young, Onawa |
| Monroe..... | G. A. Jenkins, Albia..... | H. J. Richter, Albia..... | H. J. Richter, Albia |
| Montgomery..... | F. A. Hansen, Red Oak..... | H. C. Bastron, Red Oak..... | E. L. Croxdale, Villisca |
| Muscataine..... | W. E. Catalona, Muscatine..... | V. W. Swayze, Muscatine..... | C. P. Phillips, Muscatine |
| O'Brien..... | L. M. Dyke, Sheldon..... | W. S. Balkema, Sheldon..... | T. D. Kas, Sutherland |
| Osceola..... | E. S. Aeilts, Sibley..... | F. M. Rizzo, Sibley..... | F. M. Rizzo, Sibley |
| Page..... | F. S. Sperry, Clarinda..... | S. T. Ramsdell, Clarinda..... | C. H. Flynn, Clarinda |
| Palo Alto..... | J. E. Black, Emmetsburg..... | C. C. Moore, Emmetsburg..... | H. L. Brereton, Emmetsburg |
| Plymouth..... | R. J. Fisch, LeMars..... | L. C. O'Toole, Le Mars..... | H. L. Vander Stoep, Le Mars |
| Pocahontas..... | J. B. Thielen, Fonda..... | C. L. Jones, Gilmore City..... | C. L. Jones, Gilmore City |
| Polk..... | T. B. Throckmorton, Des Moines..... | F. C. Coleman, Des Moines..... | M. T. Bates, Des Moines |
| Pottawattamie..... | K. L. Thompson, Oakland..... | A. M. Pedersen, Council Bluffs..... | G. V. Caughlan, Council Bluffs |
| Poweshiek..... | J. R. Parish, Grinnell..... | L. C. Hickerson, Brooklyn..... | S. D. Porter, Grinnell |
| Ringgold..... | W. G. Doss, Mt. Ayr..... | J. W. Hill, Mt. Ayr..... | E. J. Watson, Diagonal |
| Sac..... | J. H. Stalford, Sac City..... | L. D. Amick, Sac City..... | C. E. Lierman, Lake View |
| Scott..... | J. F. Bishop, Davenport..... | A. B. Hendricks, Davenport..... | P. A. White, Davenport |
| Shelby..... | L. V. Larsen, Harlan..... | J. H. Spearing, Harlan..... | J. H. Spearing, Harlan |
| Sioux..... | A. Bushmer, Orange City..... | C. B. Murphy, Alton..... | W. Doornink, Orange City |
| Story..... | J. W. Thompson, Ames..... | W. B. Armstrong, Ames..... | J. D. Conner, Nevada |
| Tama..... | G. M. Dalbey, Traer..... | A. J. Havlik, Tama..... | A. J. Havlik, Tama |
| Taylor..... | R. W. Bouden, Lenox..... | H. C. Moore, Clearfield..... | G. W. Rimel, Bedford |
| Union..... | M. R. Paragas, Creston..... | H. J. Peggs, Creston..... | C. C. Rambo, Creston |
| Van Buren..... | L. N. Hungerford, Jr., Keosauqua..... | J. T. Worrell, Keosauqua..... | L. A. Coffin, Farmington |
| Wapello..... | W. C. Wolfe, Ottumwa..... | E. B. Hoeven, Ottumwa..... | C. A. Henry, Farson |
| Warren..... | G. A. Jardine, New Virginia..... | D. M. Hickman, Indianola..... | C. A. Trueblood, Indianola |
| Washington..... | J. M. Lloyd, Washington..... | W. S. Kyle, Washington..... | M. L. McCreedy, Washington |
| Wayne..... | C. N. Hyatt, Humeston..... | F. Brubaker, Corydon..... | J. H. McCall, Allerton |
| Webster..... | M. G. Sanders, Fort Dodge..... | E. M. Van Patten, Fort Dodge..... | C. J. Baker, Fort Dodge |
| Winnebago..... | R. M. Dahlquist, Decorah..... | L. C. Kuhn, Decorah..... | L. C. Kuhn, Decorah |
| Woodbury..... | A. Q. Johnson, Sioux City..... | P. W. Osincup, Sioux City..... | D. B. Blume, Sioux City |
| Worth..... | G. S. Westly, Manly..... | B. H. Osten, Northwood..... | G. S. Westly, Manly |
| Wright..... | G. B. Hogenson, Eagle Grove..... | J. R. Christensen, Eagle Grove..... | S. P. Leinbach, Belmond |



